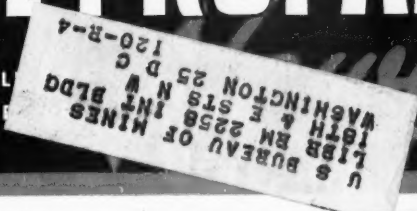


BUTANE-PROPANE

HEADQUARTERS FOR L
INFORMATION SINCE



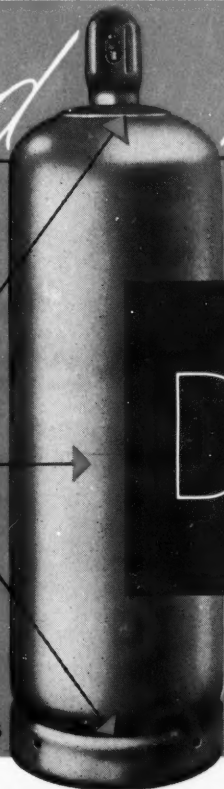
FOR THE LP GAS INDUSTRY

with the Scaife

info-crown

mono-weld
construction

continuous weld
stand ring



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the

new

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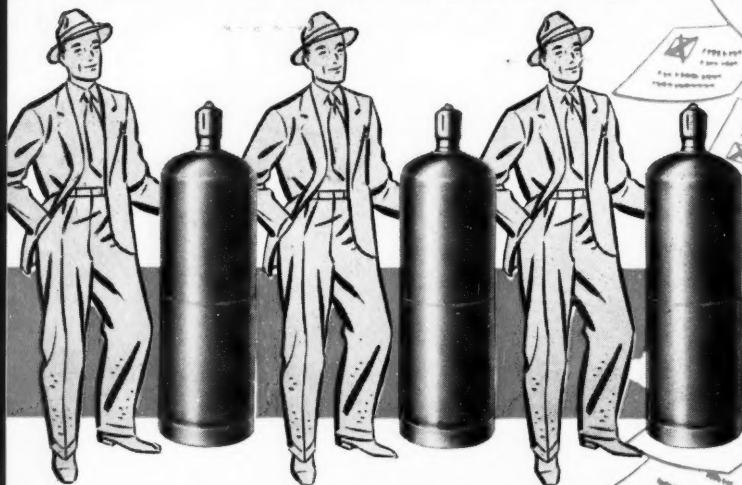


SCAIFE COMPANY

Oakmont (Pittsburgh District), Pennsylvania

JUNE, 1950 50c per Copy

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IT'S HACKNEY 3 to 1

Hackney is the preferred cylinder! As a result of this completely impartial, nationwide survey left no doubt about it. Hackney Cylinders led over their nearest competitor by more than 3 to 1. They had more than a 3 to 1 advantage over the rest of the industry combined.

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no fooling you about the practical advantages of light weight, ease of handling, rugged strength, easy maintenance—top reasons why you said you preferred Hackney.

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*It's a cinch
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alloy case



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**Pittsburgh Equitable Meter Division
ROCKWELL MANUFACTURING COMPANY**

Pittsburgh 8, Pa.

L I D S Atlanta Boston Chicago Columbus Houston Kansas City Los Angeles New York Pittsburgh San Francisco Seattle Tul



A JENKINS PUBLICATION

Letters	21
Comment	25
Beyond the Mains	Ed Titus 27
Drying Cotton Before Ginning Raises Quality.....	Zoe Johnson 31
Don't Bargain: Demonstrate!.....	S. W. Ellis 33
Rainmaker Experiments With Propane	35
Another Summer Load Builder Lies in Portable Crop Dryer	Charles F. Bishop 37
Gas Is Best Fuel For Fighting Frost.....	Bret Pliske 42
Establish Customer Confidence!	Minnette Lake Warren 57
Live Advertising Ideas Help Illinois Dealer Build Business	Harry L. Spooner 60
Total LP-Gas Sold is Two-Thirds of Natural Gas Volume.....	K. W. Rugb 66
Peter Anderson Elected LPGA President	Ed Titus 74
Associations	84
Calendar	91
New California Association Plans Higher Safety Standards	92
Power: Raise Compression Ratio To Raise Engine Efficiency	Carl Abell 96
LP-Gas—A Better Fuel for Power	112
Products	120
Dr. Donald Katz Given Hanlon Award	132
Trade	134
Classified	158
Advertisers	159

Publication Office

Los Angeles (4)—198 So. Alvarado St. Phone: DUnkirk 7-4337

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New York (18)—11 W. 42nd St. Joseph M. Dematthew, Manager. Phone: CHickering 4-1969.
Chicago (8)—1064 Peoples Gas Bldg. David Carmen, Manager. Phone WABash 2-2589.
Tulsa (5)—1341 South Boston. Craig Espy, Manager. Phone 2-2414.

Lynn C. Denny, *Editor*; Edward K. Titus, *Eastern Editor*; Paul Lady, *West Coast Editor*;
Lester L. Luxon, *Technical Editor*; Ted Shields, *News Editor*; Barbara Hall, *Editorial Assistant*;
O. D. Hall, *Mid-Continent Editor*; Fred L. Dalton, *Art Editor*.
Jay Jenkins, *President and Publisher*; James E. Jenkins, *Secretary-Treasurer*; Robert C. Horton, *Circulation Manager*; Gene Masters, *Research*.

June, 1950

Volume 12

Number 6

BUTANE-PROPANE News is published monthly. Copyright 1950 by Jenkins Publications, Inc., at 198 So. Alvarado St., Los Angeles 4, California. Subscription price: United States and U. S. Possessions, Canada, Mexico, Cuba, South and Central American Countries (in advance), 50c per copy, one year \$2.00; two years, \$3.50; three years, \$5.00. All other countries \$3.00 per year. By air mail \$8 per year, in U. S. only. Entered as second-class matter May 29, 1939, at the post office at Los Angeles, California, under the Act of March 8, 1879. Member of Audit Bureau of Circulation, Liquefied Petroleum Gas Assn., National Butane-Propane Assn., Society of Business Magazine Editors.

Publishers: GAS, The Magazine of the Gas Utility Industry; HANDBOOK BUTANE-PROPANE GASES; THE BOTTLED GAS MANUAL; Annual BUTANE-PROPANE News CATALOG; B-P News BULK PLANT DIRECTORY; WESTERN METALS.

LETTERS

● **BUTANE-PROPANE** *News welcomes letters from our readers, but it must be understood that this magazine does not necessarily concur in opinions expressed by them.—Editor.*

Gentlemen:

I would like for you to give me the correct information as to what mixture of LP-Gases (butane-propane) could be put in tanks of 80-100 pound pressure.

In other words, I would like to know what the underwriter's authority is on these gases for different types and pressure tanks.

L.A.T.

North Carolina

NBFU Pamphlet No. 58, Page 29, outlawed 80-pound tanks after Dec. 31, 1947.

If you wish to know the mixtures which would develop 80-pound pressures at 100° temperature, they would be 38% propane and 62% normal butane.—Ed.

Gentlemen:

I am very much interested in learning what is considered a fair average percentage of unaccounted-for in the propane industry from the operation of a bulk plant which fills cylinders and also makes bulk deliveries by tank truck. Approximately 36% of the business is cylinder filling and the balance is tank truck delivery.

C.J.C.

Massachusetts

It is difficult to establish a criterion for "unaccounted losses" in the propane industry. We know dealers who are perturbed if their "unaccounted losses" reach 1%; others express little concern at losses of 3 to 4%.

Unaccounted losses is a term which is often given an indefinite meaning. Many losses, or perhaps we should say shrinkages, can be accounted for and a correction, or allowance,

can be made for them. Local conditions, operating standards, and methods, must all be considered.

Some factors which may be responsible for unaccounted losses are as follows:

Leakages (through pipe joints) at either the bulk storage plant or on the delivery trucks. Also, leakages on pump packing glands, valve packing glands, relief valves, and poorly seated valves on open-end pipes and hose lines.

Other factors may be meters or scales which are out of calibration; liquid (or vapor) lost from the lines between valves when connections are broken; bleeding of vapor from the cylinders (to the atmosphere) if they are over-filled; and improperly unloaded tank cars or transport trucks.

Some things which can be accurately accounted for, and therefore are subject to correction, are: Vapor which is returned to the supplier by tank car or truck; temperature changes in the liquid from the purchased basis to the metered basis; leakage from the transport vessel while in transit; and all other delivery shortages.—Ed.

Gentlemen:

We are desirous of converting a 1950 model Oldsmobile "98" to LPG operation and would like to speed the compression ratio of the engine from 7.25 to 8.5. Can you advise how far the cylinder heads should be milled down to obtain this ratio; also how you derived the solution?

O. R.

Mississippi

We would suggest that you either secure a pair of heads with the desired compression ratio from the factory, or have some higher pistons made up. We do not know where there are any such in production, and they would probably be rather expensive. The piston manufacturer could produce the desired ratio as they are all familiar with the formula.

Overhead valve engines operate at higher pressures than L-head engines with the same compression ratio, due to the greater ease of filling the cylinders through the less-obstructed manifolds. Your 7.25 heads are about the equivalent of 7.75 in an L-head engine.

If we were making the conversion we would

simply change the fuel system, and blank off the exhaust heat passage through the intake manifold with sheets of either Swedish or stainless steel, then correct the timing to give maximum power with LP-Gas. This will be slightly further advanced than with gasoline.—Ed.

Gentlemen:

We redoped the threads on filler valve so the 115 gallon 'Pig' was empty. We metered in 90 gallon propane, percentage gauge read 90% when we finished, the temperature of liquid 20 degrees, atmosphere temperature of liquid 20 degrees, atmosphere temperature about 30 degrees. How many pounds of propane should the purchaser pay for?

W.W.

Illinois

Referring to Figure 7 (weight per gallon propane, isobutane, and normal butane), Page 46 of the Handbook Butane-Propane Gases, the weight of a gallon of propane measured at 20°F is 4.50 lbs. Therefore, the purchaser should pay for $90 \times 4.50 = 405$ lbs.—Ed.

Gentlemen:

What are the official wall thicknesses prescribed for O.D. copper tubing for the propane-butane industry, in sizes $\frac{1}{4}$ to $\frac{3}{4}$ inch?

W.H.S.

Alberta, Canada

Below you will find the dimensions you request.

**DIMENSIONS AND WEIGHTS OF
COPPER TUBES**

Nominal Size of Tube— Inches	Actual Out- side Diameter of Tube— Inches	Wall Thickness (Inches)	
		Type K	Type L
$\frac{1}{8}$	$\frac{1}{4}$	.032	.025
$\frac{1}{4}$	$\frac{3}{8}$	.032	.030
$\frac{3}{8}$	$\frac{1}{2}$	.049	.035
$\frac{1}{2}$	$\frac{5}{8}$	.049	.040
$\frac{5}{8}$	$\frac{3}{4}$	.049	.042
$\frac{3}{4}$	$\frac{7}{8}$	.065	.045
1	$1\frac{1}{8}$	.065	.050

Gentlemen:

We have had one or two experiences where people have come in here with small boilers that were used on natural gas, but when the orifices were changed over to propane, the boiler did not perform with the same efficiency. This was probably due to the fact that the heating tubes were too far away from the flame.

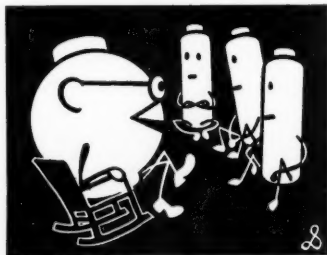
We also had another experience where a bakery supply house furnished a steam boiler that was equipped with individual burners (burner, orifice and air adjustment all one piece) that was set up for natural gas. After some delay the company sent propane burners and when they were changed, the boiler would not heat enough to produce steam. Can you account for these facts?

M. L. W.

California

Gas-fired boilers are converted from natural gas to propane fuel regularly and successfully. There is very little difference in the designs of boilers which are to be used for various kinds of gas fuel. Generally the only changes made are those to the burner.

Your difficulty leads us to believe that the burner was receiving too much primary air for proper combustion in the boiler, and that an excessive amount of air was being drawn through the boiler and carrying the heat out the chimney. We suggest that you close the primary air shutter more and also close the damper if necessary. It is possible that the gas pressure was not high enough for the burner or that the new orifice was too small.—Ed.



Gentlemen:

Will you be kind enough to advise us if a bulk storage system used on brooder stoves will use more propane than a 100-pound cylinder setup with automatic throwover?

H. P.

New Jersey

It is inconceivable that any utilization equipment would burn less propane if hooked up to a bulk storage system than if it drew its supply of gas from cylinders. The capacity of the burner would be the same.

Many times, dealers find it to their advantage to sell gas at a lower price when the customer's system has a large capacity so as to save making so many trips to the customer's premises, and in that way a customer might make a saving on the price of fuel if he had a larger tank, but there would be no difference in the consumption of gas.—Ed.

Gentlemen:

I am writing in search of information on the effect of butane and propane gas on plants and its use in greenhouses. I would greatly appreciate any information you may have available on this matter.

W. A. G.

Georgia

Butane and propane are widely used for heating greenhouses and this fuel not only is satisfactory for the actual operation of heating, but the gas is beneficial to plant growth.—Ed.

Gentlemen:

Could you give me the proper orifice size or the drill to be used when converting appliances from manufactured gas to 850 Btu, specific gravity 1.14, pressure in inches of water 6.

We would like the proper drill or orifice size on propane-air mixed gas starting with 1250 Btu's to 87,500 Btu's input.

H. E. G.

Massachusetts

In the third edition of our "Handbook Butane-Propane Gases" (Page 198) will be found Table 4, showing the flow of liquefied petroleum gas through standard orifices. This table

does not show propane-air but does give butane-air figures.

If you will use 1000 Btu instead of 850 Btu and shift the entire chart down three spaces in accordance with this, you will find it about fits your problem.

As an illustration, No. 60 drill size would pass 3290 Btu for propane-air instead of 3850, shown in the table for butane-air. For a No. 50 you would use 9700 instead of 12,850. And so forth.

It should be remembered that in trying to drill orifices in the field they are liable to be a little larger than they should be because of unsteadiness in the drilling operation.—Ed.



Gentlemen:

Could you please advise me where I could get information concerning the use of propane gas in industry in the place of acetylene gas? I am concerned with the relative merits of propane versus acetylene for cutting steel plate, etc.

C. G. C.

Ontario

Propane has been used in place of acetylene gas with oxygen for cutting steel. Preheating for the start of the cut cannot be done as rapidly with propane as oxygen, but other factors often offset this loss in speed.

Propane produces a cut with sharper edges and less slag adhesion. Fuel and handling costs are often much lower.

We refer you to Page 229 of the "Handbook Butane-Propane Gases," third edition.—Ed.

HIGH QUALITY PRODUCT



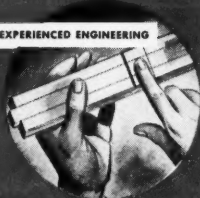
DEPENDABLE SUPPLY



PRACTICAL MARKETING HELP



EXPERIENCED ENGINEERING



**BULK PLANT
OPERATORS GET THESE
IMPORTANT BENEFITS
WITH**

OPERATIONAL ASSISTANCE



Phillips 5-Way Profit Plan

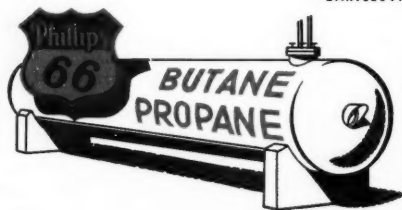
The uniformity and quality of the gas you sell are assured by Phillips high standards of production. In addition, you can rely on Phillips for a dependable supply, summer or winter. Whether your plant is large or small, you have

Phillips experienced engineers to advise on plant design and equipment. You profit, too, by Phillips experience in marketing and promotion. Phillips is always ready to help on safety, sales and operating problems.

PHILLIPS PETROLEUM COMPANY

PHILGAS DIVISION • SALES DEPARTMENT

BARTLESVILLE, OKLAHOMA



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Atlanta, Ga., Chicago, Ill., Denver, Colo.,
Des Moines, Ia., Detroit, Mich.,
Indianapolis, Ind., Jackson, Miss.,
Kansas City, Mo., Milwaukee, Wis.,
Minneapolis, Minn., New York, N. Y.,
Raleigh, N. C., St. Louis, Mo.,
Tulsa, Okla., Wichita, Kan.



comment

WITH the conversion of gasoline engines to burn butane or propane stampeding all over the country, many inquiries have been received regarding federal tax on LP-Gas. The question is, must a farmer burning LP-Gas for tractor fuel pay the federal tax that he would if the same fuel were used on the highway?

The answer is no.

Fuel used in farm tractors is considered to be a Class B product but application for the tax refund must be made in such instances by the producer rather than by the dealer or the user. The producer, in turn, reimburses the user when the refund is made.

According to a recent bulletin of the LPGA (1), the Interstate Commerce Commission has issued its decision in I&S Docket 5623 involving rates on tank car loads of LP-Gas from the Southwest to official territory (east and north of Indiana). By this decision, the Commission has directed that the carriers establish rates "equal to the so-called basic rates from and to the same points in effect June 30, 1946, increased 40%, subject to a maximum of 25 cents per 100 lbs., plus the general increases authorized on and after Dec. 5, 1946, and subject to the prescribed estimated weight of 4.7 lbs. a gallon." The order became effective May 18.

The ordered rates, with the use of the 4.7 weight, will effect a reduction in freight charges over present through charges, and the carriers pro-

posed through rates, increasing with the distance east and north of the Indiana line. Combination rates, now being generally utilized, still remain the lower rate in the area involved except on shipments to New York and the New England area where the ordered rates will be lower.

(2) The Interstate Commerce Commission has denied the carriers' third petition to reopen I&S Docket 29170. This case involved shipments from the Southwest to Western trunk line territory, and the decision had the effect of substantially reducing LP - Gas freight charges in that area.

U. S. Bureau of Mines reports January, 1950, production of liquefied petroleum gases for the country as a whole at 266,567,000 gals. Los Angeles office of the same department reports January production in District V at 31,347,000 gals. This is published in the recent bulletin of the NBPA.

Safety standards in California will be advanced if a code clause proposed by the Liquid Gas Dealers Assn. is adopted. It will authorize dealers to inspect their own installations. To qualify, the dealers must pass a state examination.

Tank truck drivers, installers and service men must prove their fitness in like manner.

This new association really means business and deserves the support of all California dealers.

By Ed.

BEACON

follows through

**the year 'round
to meet your
BUTANE-PROPANE
requirements . . .**

Tee off in the direction of bigger profits with Beacon's better BUTANE-PROPANE service . . . and you'll find that BEACON likes to caddy and serve you instead of play in competition against you . . . and whether in fairway or rough, you'll find BEACON is always ready to help you with every problem.



PHONE 5-5553
TULSA

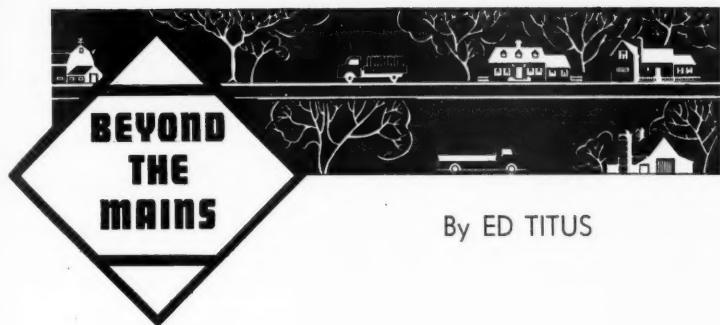
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P. O. BOX 2478
HOUSTON, TEXAS

53 West Jackson Blvd.
CHICAGO 4, ILLINOIS



By ED TITUS

CARRYING coals to Newcastle has nothing on the way at least one Canadian operator expects to build up a winter loan to balance his heavier summer load. He's going to carry propane to lumber camps and has some commitments already.

Lumber camps operate in the winter. It's cheaper to bring propane cylinders into the camps by airplane than to hire extra help, at present high labor costs, to go out and get the firewood and take the time to dry it. The propane will serve for cooking—possibly also for heating if properly insulated portable houses can be devised.

With the LPGA convention at the Stevens, also in Chicago, next year, more exhibitor space will be provided in the main hall. This year the exhibit overflowed.

Some operators from Canada, where the industry is just a fledgling so far, were present and talk is that in July or August Canada will have its own propane produced by Imperial Oil Ltd. in Sarnia, Ontario. In 1951 it's believed oil will be piped to Fort William from Alberta, and this will mean propane produced from Canadian raw material.

Pressure is being brought on the Ontario Highway Department to re-write rules to permit propane and butane tank trucks to operate on Ontario highways.

Along with the promotion program, it's essential to find ways of combating Rural Electrification Administration propaganda. Local REA co-ops, irresponsible and operating independently of the national setup, say about anything they please.

•

It's amazing that, as Ed Martin, GAMA's statistical man says, Mrs. America doesn't seem to have any objection even to the "B-29 instrument panel" on some of the electric ranges. When they have some complications and problems with it, though, they'll be good prospects for replacement of the fuel of switches and elements with smooth-operating LP-Gas.

•

Lee Brand, head of the LPGA promotion committee, points out a big opportunity in that only 15% of farm families who use LP-Gas in their homes use it also for agricultural purposes. This represents a huge potential market.

•

Everybody knows one reason why Europe isn't getting rolling faster and getting clear of U. S. aid faster is lack of dollar exchange to buy U. S. goods. One European traveler in this country is eager to buy U. S. goods, possibly import LP-Gas from the United States.

But he can get exchange sufficient only for his business travelling expenses.

One way around this is for U. S. manufacturers to license production in European countries. With manufacturers in foreign countries licensed to produce a few basic items of LP-Gas equipment, maybe the market would open up for other items that could be exported from here. We're not taking sides, pro or con. It's just a suggestion.

For instance numerous Belgian manufacturers are showing interest in plans for making American products in Belgium under licensing arrangements with U. S. manufacturers, according to Charles J. Little, Commercial Attache of the United States Embassy in Brussels. The pattern would follow that of foreign assembly plants of American automobile manufacturers.

Drying Cotton Before Ginning Raises Quality and Price

By ZOE JOHNSON

BUTANE is a factor in the production of the finest seed that scientific breeding can produce at the Robert L. Dortch Seed Farms in Scott, Ark. It gives just the right temperature for drying the high pedigreed Dortch seed.

Dortch Seed Farms supply practically every cotton producing area in the United States and Mexico as well as a large amount of hybrid corn, oats, and soybeans.

The farm comprises approximately 3000 acres planted to seed for commercial distribution and scientific breeding experiments. Mr. Dortch also contracts with neighboring farmers for about

6000 acres planted only with his seed.

A butane storage tank of 6000-gal. capacity supplies the heat for the huge Hardwick-Etter cotton dryer (Dallas) that drives the moisture from the seed cotton before it is fed to the ginsaws.

Mr. Dortch says that, depending on the cotton's quality, butane drying of cotton before ginning adds from \$1 to \$2.50 to the value of each bale ginned, and, depending upon the moisture in the cotton, it requires from one to three gallons of butane to dry one bale.

Figured on an average of 3000 bales ginned each season (last year 4000), this would be a tremendous saving.

Drying the cotton before ginning gives a much better grade of lint, cleaner seed, and speeds up the ginning operation. Before in-



ROBT. L. DORTCH

These soy bean storage bins hold a total of 80,000 bushels.

JUNE — 1950





The Dortch gin, with dryer in foreground.

stalling the dryer four years ago, cotton ginning waited on the weather. A rainy spell, even a sudden shower, could make the cotton too wet for ginning. If cotton was brought in too wet for ginning, the customer had to take his cotton back home, spread it out in the sun, and wait for it to dry.

Ginning capacity of the Dortch gin is four bales per hour — 96 bales on a 24-hour schedule, though it is seldom they have to run 24 hours.

Butane is also used in the Dortch Seed Farm community for home fuel, many of the tenant farmers having small surface

tanks for their butane cooking ranges.

No scientific angle is bypassed by Dr. L. M. Humphrey, in charge of seed breeding experimentation at Dortch's in his search for plant improvement. Last year's most startling development was a row of new cotton that not only promised an exceptionally high yield on average land but also seemed to be resistant to the boll weevil.

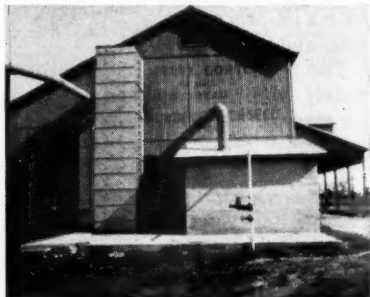
Small portions of all varieties of seed are sent to Oak Ridge to be radiated on atomic piles, for it is known that atomic radiation changes heredity. So far, the only improvement from such radiation has been a cotton plant entirely free of the natural hairy growth of the cotton stem.

Though there is only one chance in a million that atomic change of heredity will be for the better, this millionth chance cannot be overlooked and Dortch Seed Farm has not overlooked butane as the one dependable fuel to dry its pedigreed product.

Fuel storage plant that supplies dryer.



The Dortch butane dryer plant.



Don't Bargain:

Demonstrate -

By S. W. ELLIS

WHEN a prospect comes into the LP-Gas & Equipment Co., Springdale, Ark., the owner, Joe McKim, tries for a demonstration instead of a sale.

"I have never yet solicited a sale," he says. "I invite the prospect to see a demonstration. A good demonstration sells the new system as well as the appliances."

In business only 2½ years, Mr. McKim supplies gas to 1200 consumer domestic tanks and to 400 bottle installations. A variety of LP-Gas appliances attracts new customers every day from the street and from a mailing list of 7500 names.

Even the four salesmen who knock on doors in this prosperous Ozark community urge the new prospect to come to the store for a

demonstration. Mr. McKim and his attractive wife demonstrate everything in the store, from washing machine to range. The demonstrator washer near the entrance is always in action. There is a range or two connected so customers can see the clean, hot flame.

Customers who already have LP-Gas installed are given appliance demonstrations in their homes. "Our LP-Gas users don't buy new appliances off our display floor," said Mr. McKim. "They buy them in their own homes. A demonstration in the home is nearly always a sale." Mr. McKim appreciates the value of the woman home demonstrator, and Mrs. McKim is now rounding out her sales training to fill this need.

Mr. McKim likes to call person-



Mr. McKim plans a range promotion, with the assistance of Mrs. McKim and daughter, Kay.

ally on many of his rural prospects. "It pays the dealer to make friends with the farmers," he says. "I go fishing and hunting with them. And I like to make some of the call-backs on customers. We follow every major sale with a call-back. That lets the customer know we are genuinely interested. It enables us to make sure that the equipment is satisfactory and that the customer knows how to use it."

Springdale has only 6000 inhabitants, but it is located in one of the wealthiest rural sections in the state. The farmers, who have grape vineyards, broiler plants and fruits, can afford LP-Gas. Mr. McKim has their names on his mailing list. If he does not have the names, he

sends his mailing pieces to the box holder. But once a month several thousand farmers who can afford to buy what Mr. McKim has to sell receive his message. Sometimes the advertising piece is manufacturer's literature. Again, it is the dealer's own letter or printed postal card.

Poultry Use LP-Gas

Besides being in a grape-producing area, Springdale is also in the midst of the second largest broiler producing area in the world. Joe McKim has worked hard to modernize the industry with LP-Gas. Growers, hatcheries, and chicken dealers are all his prospects. They help to keep his three delivery trucks and his big transport busy all the time.

Mr. McKim has a strong sales story. Direct mail, screen, and newspaper advertising, all are backed by demonstrations. It has helped him to prosper.

"But the LP-Gas industry needs unified advertising," he says. "Our story should be promoted in the home and in the commercial prospect's plant through the medium of national advertising, planned and executed by experts. We dealers are fighting a lone-wolf battle now. With our own axes to grind, we are hampered in our efforts to educate potential users of LP-gas and appliances."

In the meantime, he will continue to promote and demonstrate, and his four salesmen will knock on doors.

"Once a prospect understands what bottled gas can do for him," he says, "we have another customer."

Rainmaker Experiments With Propane



RAINMAKING is not as fantastic as it seems. There are four ways to tap rain from the right type of cloud:

- 1—Dry ice;
- 2—Artificial nuclei;
- 3—Water;
- 4—Air expansion.

The ground-based experiment described here employs the second method, with silver iodide crystals forming the nuclei.

IN past centuries, the men who claimed to be able to make rain fall from the heavens were classed with those who said they could make gold from lead. It just wasn't possible, and everybody knew it and said so.

Today, thanks to General Electric and army research, rain-making as a profession is more likely to draw appreciation than laughter. It can be done, has been done, and is being looked upon as a probable, important source of relief from future droughts in farm and industrial areas.

Just about the newest gimmick in rain-making, following on the heels of successful experiments in "salting" favorable cloud formations with dry-ice particles from an airplane, is ground-based coaxing of showers.

This method uses silver iodide crystals which are vaporized, discharged into the air, and carried into the clouds by thermal currents. Thermal currents are nothing more than rising currents of air—updrafts that usually accompany a thunderhead cloud. The ground-based method is therefore supposed to be effective during the dry summer months when thunderhead clouds are present.

Formerly, this vapor was generated by a unit using as a fuel charcoal impregnated with silver-iodized crystals. The newest development is the use of propane as the fuel to vaporize the silver iodide.

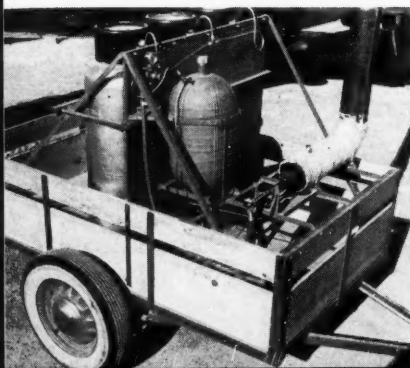
The Butane Corp., of Phoenix, Ariz., has been working on this approach to rain-making with C. S. Barnes, an old hand in airplane experimentation in rain-making and

presently the president of Precipitation Control Co., Phoenix.

In the portable, efficient unit it has produced, Butane Corp. thinks it has found answers to the three "must" requirements of such an apparatus: Simplicity of operation; adaptability to all climatic conditions; and ability to vaporize 98% of the expensive reagent into the proper rain-producing nuclei. The smoke-generating unit is mounted on a two-wheeled trailer with a standard hitch and can be moved from place to place as productive cloud structures require. The idea is clear: Farmers and cattlemen with such a unit, operating on low-cost propane, could afford their own rain-making operations.

Mr. Barnes' design has three 100-lb. ICC propane cylinders (enough fuel to allow 100 hours of operation) mounted behind a nine-gallon stainless steel tank for the silver iodide solution. The Butane Corp. has fitted the unit with standard burner manifold and burner control, and special combustion chamber, burner modification, and draft pipe—all accepted for use after long experimentation. Pres-

Portable unit built to produce silver iodide vapor for rainmaker, C. S. Barnes. It carries three 100-lb. propane cylinders, fuel for 100 hours of operation.



sure for spraying the solution comes directly from the fuel tanks, thus eliminating the need for a mechanical pressure device. Special stainless steel baffling was developed to hold the heat and make possible an exceedingly high production of effective vapor crystals.

Actually, the rain-making operation is a simple prompting of the processes of nature. Rainfall is started when nature produces a minute ice crystal in a super-cooled cloud particle of water. By a process known as sublimation, this particle grows by drawing water to itself, and by colliding with other cloud particles of water, until its weight causes it to fall. During hot summer days, potentially productive clouds do not produce rain because there is a lack of ice-forming nuclei in the atmosphere. Thunderhead clouds are direct results of thermal action and updrafts; and spraying silver iodide vapor (i.e., ice-forming nuclei) into the updrafts will carry them to the upper parts of the favorable cloud formations—thus making conditions perfect for rainstorms of longer duration and greater precipitation than would normally occur in hot weather.

In addition to the ground unit, Mr. Barnes has developed an effective silver iodide-generating unit for airplane use, and is presently building his twelfth plane for this operation. He sees a bright future for the ground unit in producing vitally needed rain for farmers and ranchers during hot summer days when thunderhead clouds are present. The low cost of propane, he believes, will make it economically possible for small operators to own rain-producing units, in situations where the high-cost of airplane methods of rain-making would be financially impossible.

Another Summer Load Builder Lies in Portable Crop Dryer

By CHARLES F. BISHOP

Chief Engineer, Southwest Industrial Heating Engineers, Navasota, Texas

WITH the development of the artificial crop dryer for universal farm usage a whole new field is opened by which the LP-Gas dealer may increase his sales. By new field, we are not referring to the commercial and custom drying plants which have been served by the industry for years but the individual farmer, who makes up a

large percentage of the normal load carried by dealers. Thus on his regular calls the dealer can solicit this business without the usual missionary work necessary in obtaining new accounts.

While implement dealers and agricultural engineers are interested in these dryers and are active in the sale of them, the LP-Gas man by the very nature of his business, has more at stake in the sale of them, for not only does the first sale pay off but from there on, he is the recipient of continuing future business, namely the fuel load.

The modern farmer with his improved machinery and methods still has to combat the weather at harvest time. While these dryers cannot control the weather, they can function in spite of it, enabling the farmer to harvest and store many crops that would otherwise be subject to total or partial loss.

The whole science of artificial drying consists basically of two functions. One is supplying the proper amount of air with the correct temperature rise to handle the particular crop being processed, and the other is the method of

THIS article does not dwell upon the technical side of artificial dryers nor does it go into detail on dozens of successful installations, but rather touches briefly upon many phases of the practice of artificial crop drying and, most important of all, is intended to arouse the LP-Gas industry as a whole to the tremendous possibilities offered by this comparatively new source of sales.

It is stated by the manufacturer of this portable crop dryer that, in addition to its mechanical efficiency in performing its appointed tasks, the dryer is equipped with safety devices which will completely shut off all fuel and power in case of fuel interruption, duct stoppage, or overheating, thereby avoiding any danger of fire or crop spoilage.

Several sizes and varieties of these dryers are available, at least one of them—an enclosed model—can be used in winter months in cold climates for dehydrating applications.—Editor.



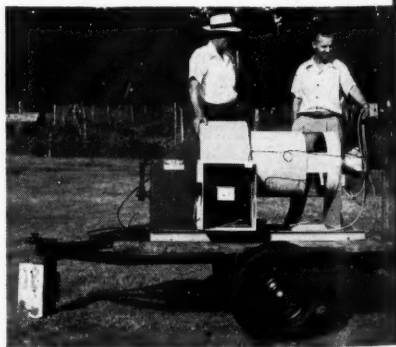
Trailer model showing fuel bottles removed. This unit supplies 9000 cfm and is capable of staying ahead of a two-row combine.

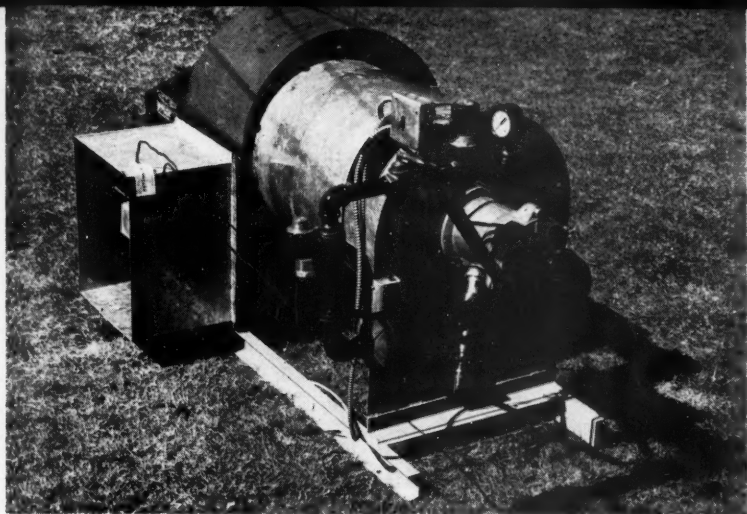
most efficiently handling the crop so as to permit the desired moisture to be carried off by the air.

With this in mind, we have developed and proven the "Farm-Mor" crop dryer, a compact, inexpensive, portable unit. In keeping with good engineering practices it has been made as simple as possible, yet fool-proof and safe. It is extremely flexible in its operation and is 100% portable as it carries its own supply of LP-Gas in standard 100-lb. ICC cylinders and operates with an air-cooled motor using either LP-Gas or gasoline. Thus it is entirely independent of existing utility lines.

Actual operating costs reported by users of this dryer and verified by impartial agricultural authorities have shown that peanuts, rice,

sorghums and other crops may be dried for storage at but a fraction of the charges usually paid to the commercial plant. Peanuts have been dried at costs of between 35 and 50 cents per ton. Grain sorghums from 40 to 60 cents per ton, and rice at 50 to 70 cents. These





Twenty-five of these stationary units installed in a peanut dryer, have resulted in trouble-free operation and economical performance.

figures pertain to a 7%-an-hour moisture reduction and are based on butane at 11 cents per gallon and electricity at 3 cents per KWH.

Added to this is the very desirable fact that the farmer does not have to truck his crops many miles to a commercial plant, thus adding to the already high cost of custom drying.

There are many ways in which these dryers may be used and the average farmer wants the setup to be as flexible as possible. A simple but effective way is to build a wooden tunnel with either a slatted or screened top. A variety of crops may be so dried, such as sacked peanuts, rice, grain sorghums, or crops such as alfalfa, hays, etc., may be taken from the

swath and piled over the tunnel and rapidly and economically dried.

Another popular method is to take existing farm wagons and build a screened floor about 18" up from the wagon floor. It can be put to the same uses as described above and if three or more wagons are available a production line process may be set up with one wagon being filled, one being dried and the third being stored.

Among the crops successfully dried with this type dryer are rice, peanuts, grain, alfalfa, hay, oats, wheat, corn, nuts, sweet potatoes, tobacco, citrus peel and any other crop requiring moisture removal for storage. In addition, the dryer can be utilized for lumber drying, sea food dehydration and many in-

Small skidded model is easily mounted on existing farm trailers.

DRYING OPERATIONS

Hay	Cotton Seed
Grain	Cotton
Rice	Greenhouses
Peanuts	Soy Beans
Corn	Sweet Potatoes
Alfalfa	Citrus Peel
Oats	Grass Seed
Apples	Sorghum Grains
Nuts	Tobacco
Sea Foods	

dustrial processes. There is hardly a use for these dryers that cannot be found on the average LP-Gas dealer's regular route.

We recently had a model on display at the Mercedes fat stock show in the Rio Grande Valley. It created more interest than any other piece of equipment in the farm implement exhibit and the results were very gratifying. People were amazed to see its safety equipment rapidly come into play when needed and found it hard to believe that such a compact unit could produce so much in the way of volume.

It was not necessary to use any high pressure tactics to sell these. The demonstration, plus the fact that any man is willing to spend a dollar to save two, did the trick. It demonstrated the fact that there has never been enough dryers in the valley to handle the crop of grain sorghums and the farmer was forced to sell it at whatever he could get from the elevator operators, for if he did not do this he would soon have spoiled grain on his hands. Later on when he needed feed for his stock he had to buy this back at double the fig-

ure he had sold it for. Thus, a man with any sizeable acreage can buy and operate the dryer for his differential in one year.

Implement dealers and LP-Gas men are buying these dryers for rental purposes. Their plan is to go right on the man's farm and dry his crops as they are harvested at a fixed figure or in some cases, such as the LP-Gas dealer's, rent him the dryer at a nominal fee and sell him the fuel. Thus, both the farmer and the dealer benefit, for the farmer does not have to haul his crops and the rate is usually less; so the dealer, in addition to selling a greater load of gas, usually can sell the dryer, as well, after the farmer has had a convincing demonstration.

It has been proven by numerous agricultural colleges, agencies and by the research of private companies that artificially dried crops contain a much higher food value than those which are field dried.

Artificial crop drying, although still in its infancy, promises to be a source of large loads for the LP-Gas dealer in the very near future. The fuel sales potential per installation far exceed those of the



CHARLES F.
BISHOP

Four-Year Management Course Offered Texas Dealers

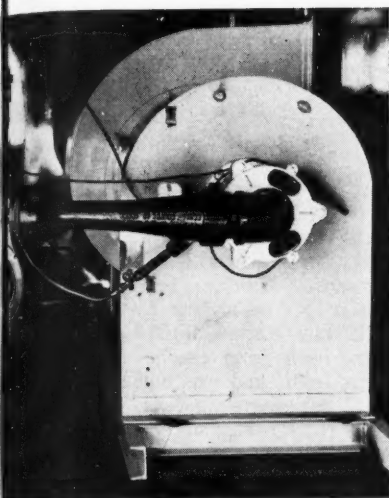
The first session of the Texas Butane Dealers Management Institute—first of a series of four annually—was held May 15-19 at the Driskill hotel in Austin, and according to reports proved highly beneficial to those in attendance.

The Institute, offered and sponsored by the association's ethics and improved business practices committee, is conducted in cooperation with the State Board for Vocational Education, Distributive Education Division.

Instructors at the first session included George L. Walling, who dealt with the problems of store modernization and remodeling. Another important course was conducted by Plasco G. Moore, assistant state supervisor of distributive education, which included determining sales potentials and customer market, planning for sales drives, training employees, use of advertising media, timing and planning, displays, promotion ideas, etc. Bill N. Newman, former training specialist of the University of Texas, spoke on conducting employee meetings. Record keeping was also an important session.

Dealers who enroll in the Institute for credit can complete the full curriculum in the four-year period by taking all courses offered at each session. Certificates will be issued at the end of each summer session.

According to Bill Lawson, executive secretary of the TBDA, the institute was organized to offer dealers an opportunity to broaden their knowledge of business operation. The courses will be practical and short and each has been designed to give a maximum of instruction in a short time. The courses will cover a varied range of subjects during the four-year period.



"Farm-Mor" stationary unit permanently attached to a steel storage bin. This model is completely independent of power and fuel lines, being powered with a gas engine and using butane as a fuel.

widely publicized tractor and truck conversions.

Realizing that all LP-Gas dealers are not necessarily heating, ventilating or agricultural engineers, the Southwest Industrial Heating Engineers have extended free consulting engineering to the potential users of our equipment. By thus cooperating with the dealer we are able to help him to recommend the best setup for his prospective user, which of course, works out to the mutual benefit of all parties.

L.P.G. (Liquid Petroleum Gas)

Gas is Best Fuel For Fighting Frost

By BRET PLISKE

American Liquid Gas Corp., Los Angeles

THREE destructive winters in a row, and the property damage and adverse public opinion caused by smudge during the seasons of heavy firing, and the high fuel cost of inefficient oil burners in the rich citrus areas of California have magnified the problem of heating citrus orchards. In addition, the smudge has made cleansing of the fruit for market necessary. The need for an economical and efficient firing method to meet the smudge problem and reduce crop loss was never greater than now.

Methods of firing have long been

a headache to citrus men. Oil is most commonly used, but it is the greatest smudge producer and shows up poorly in the cost vs. efficiency ratio. Wind machines have been tried as the answer to fruit-frost, and are indeed still in use, but they must be combined with some heat source or else their effect becomes destructive — extremely cold air is damaging when blown through the groves.



Bret Pliske, who has engineered the development of the "Algas" butane-propane burner for orchard heating, has here unfolded the complete unit for inspection. Note the supply cylinders in car.

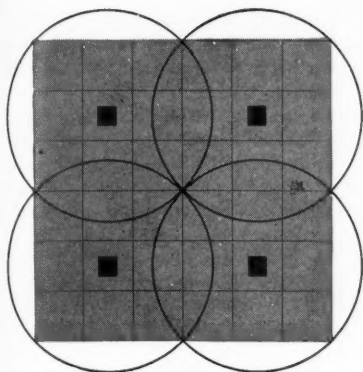


Fig. 1 illustrates how 4 heaters cover a given orchard area.

LP-Gas was first tried for fruit heating in 1933—and some original systems still operate. However, the industry was in its infancy at that time, and fruit growers soon grew tired of trying to find adequate supplies of gas, proper equipment, and accurate engineering consultation, and the use of butane or propane has been the exception rather than the rule.

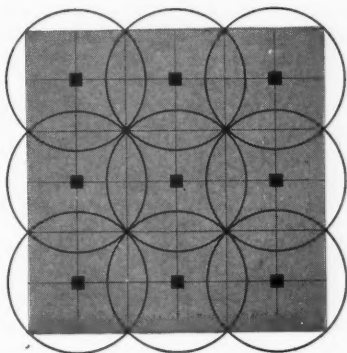
The chief difficulty with the oil heater lies in its narrow limits of controllability. In an attempt to regulate heat, it is the growers' practice to keep lighted a smaller number of heaters as the temperature rises. The heaters are built for a large output, resulting in a strong upsurge of hot air which rises far too rapidly to be of any heating value. Thus the real heating effect of these heaters lies in the radiation (infra-red rays) of the heater's surface—and this could

have been achieved with a good deal less fuel.

Oil, in order to burn as a gas, must be heated beyond its so-called "end point." This is accomplished by a "generator"—but that predetermines the larger size for the heater. In the same way, the heater must be operated more or less at its full output to keep the generator hot enough to operate. All this is well understood by the growers who learned to cope with the situation and did a splendid job in saving their valuable crop from frost damage.

But they could not help the smudge. Because of the oil structure, there is always some carbonaceous material present which will not burn and which causes the smudge. The recent laws governing the output of smudge by the oil heaters will entirely eliminate

Fig. 2 illustrates how the same orchard area (Fig. 1) can be more effectively covered with a minimum of heat loss, and a substantial saving in fuel by using 9 small heaters.





A battery of oil-burning heaters along one edge of an orange grove. In this instance, the trees were burned alongside the heaters and heavily damaged with frost on the opposite side.

some and limit others. A particular care is being exercised to make the growers smoke-conscious and not let their heaters smolder without proper draft long after the necessity for heating is over. Needless to say, it is the starting period and the final, end period which is the worst offender. At the start the generator is cold and at the end the oil is too hot to stop smudging, even when the heater is shut off.

A greater number of slow-burning fires would help more than these fast and furiously burning oil fires. The faster the heat goes up, the more cold air rushes in to replace it. Many a frost damage loss may be directly attributable to this cause. The writer has observed trees which were on one

side scorched by the close proximity of intense heat—and on the other side completely devastated by frost.

To answer this problem some LP-Gas equipment manufacturers have designed an orchard heater that eliminates the defects of oil heating and substitutes the obvious advantages of piped gas. These heaters are smokeless while burning, are simple to light since they don't require pre-heating, and can be controlled from one valve if desired. By changing the pressure in the line, anywhere from one-half lb. to 30 or more lbs., by simply turning this one valve, the whole system of any given number of heaters will respond instantly. In addition to this advantage, some laterals, covering a colder or warmer portion of the grove, may be controlled separately, but still will respond to the control from the main valve, maintaining the desired differential in heat output.

One Valve Controls System

Then, when the end of heating is at hand, one turn of the main valve will shut off the whole system — again, without smudge, odor, or any other nuisance. During the frost season, when frost warnings have been issued for several days in advance, it is possible with an LP-Gas system to leave the burners lit and, by reducing the main pressure to a few inches of mercury per square inch of area, the output of the heaters will be low enough to obviate the necessity of re-lighting the heaters again the next time. Also, when

desired, an extra, comparatively small investment will procure a thermostatic control for the main valve, which will increase or decrease the pressure in the main line and thus automatically control the heat output in the grove.

Advantages of Small Heaters

The small, compact, and inexpensive LP-Gas heater lends itself excellently to a multiple-heater system installation. As was shown above, more and smaller units, with a variable output of heat, will distribute the heat in the grove much more satisfactorily; and the saving of fuel should be very marked. The more heaters there are in the grove, the smaller will be the orbit of heating for each heater and the greater will be the effect of the *radiated heat*. The resulting fuel saving will more than off-set the extra cost of piping for the additional heaters.

Once an LP-Gas system is properly installed, there is practically no maintenance in connection with it. LP-Gas is clean, does not deteriorate with long-time storage, provides its own infallible pressure, and leaves no residue. The writer knows such a system to have been in operation for 17 years in a 10-acre grove owned by Paul Naftel, of Claremont, Calif. Although the LP-Gas heaters in this grove continued in service season after season, Mr. Naftel has not cleansed them for 15 years—and then only to rid them of an oil smudge deposit which settled on the non-burning parts of the heat-

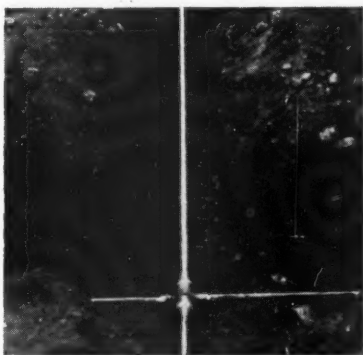
ers from surrounding groves heated by oil.

The LP-Gas heater is indeed so simple in its construction that there is very little which may require attention. Even the piping is subjected to far less abuse with gas usage. The gas itself, whether in liquid or gaseous form, does not deteriorate the lines, as oil does, on the inside—and as for the outside, the total absence of smudge should be of some benefit.

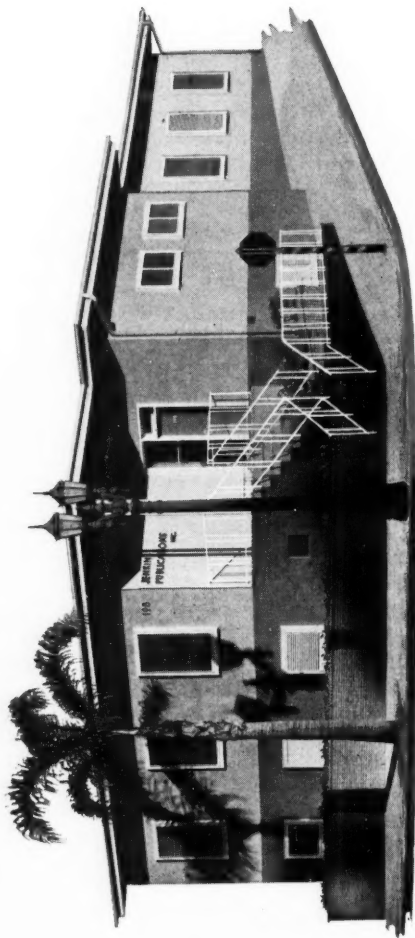
Of course, the normal oxidation of the lines will also take place in the gas system but here a proper care for the lines in the form of painting the aboveground pipes once in several seasons and securely wrapping and tarring the underground lines will minimize any trouble from this direction.

The placing of the heaters is a matter which will settle itself with experience.

Fig. 2 demonstrates how nine small heaters with a shorter heat-



Trenches and piping for LP-Gas in a California orange grove.



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ing radius may be employed to cover same area as four larger heaters (Fig I). In practical application it has been found better to use four small heaters for a given area than two large ones for the same space. This heats the same area more efficiently at one-quarter the cost.

California has a total citrus area of more than 300,000 acres. Of these, only 100,000 acres are heated. Each acre averages 35 oil heaters, each consuming an average of one gal. of oil per hour. The average storage per acre is 1000 gals.

A survey, dealing with the Pomona-Upland district of Los Angeles county, brought out the fact that an average of 70 hours of heating per season appears to be about right. A simultaneous survey by a Los Angeles county agency shows a county average of 50 hours.

Using this 50 hours of heating as an all-California average: 100,000 acres (each acre heated by 35

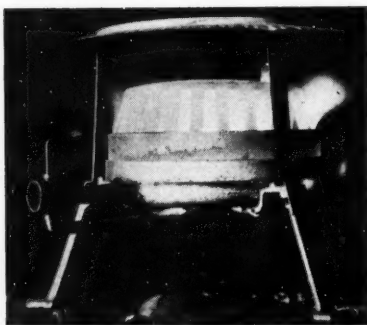
heaters), will consume 3,500,000 gals. of oil per hour.

This figure multiplied by 50 hours of heating per season produces the staggering amount of 175,000,000 gals. of oil.

The controllability of LP-Gas heaters will reduce materially this gallonage. Paul and David Naftel, who used LP-Gas for heating 10 acres of grove each, report a consumption of one-third less for gas than for oil. This means that a storage of 1170 gals. per acre will serve as a full season's need. It is important that each grower, or the association serving him, carry a minimum of 1000-gal. per acre storage. It is also important that such storage be as much as possible concentrated in one tank or in one group of tanks for any one grove, regardless of its acreage. If multiple tanks should be used, and the tendency in the tank industry leans in that direction, the tanks should be one integral unit, manifolded together.

The latest practice of using pipe tanks less than 3 ft. in diameter is proving a boon for the citrus industry, as the extra length does not matter in a grove and the cost per gallon of storage is lower. The pipe, comprising tankage of definite length, provides the flexibility of storage needed for the variable acreage of each grove better than bulk storage of any other known kind. Each such storage should be filled during the summer months at the convenience of the fuel supplier and at a time when supply is most abundant at the refineries.

There is some question now



"Algas"-designed orchard burner which has been in operation for many years.

whether or not there is enough LP-Gas available to replace oil in the orchards as the heating medium. Let it suffice for our purpose now that one producer alone recently placed on the market 500,000 gals. of LP-Gas per day and that the present marketed propane volume represents less than one-half of the potential available. If storage were provided, as certainly would be the case with orchard heating, supply will soon adjust itself to new conditions.

1,000,000 Oil Heaters Condemned

The changeover from oil to LP-Gas will not be too sudden, nor would it be desirable to have it so. The present tendency, more or less California state-wide, is to allow the use of only those oil heaters which can show under test that they will not give out more than 1 gram of carbonaceous matter per minute. This eliminated, in Los Angeles county alone, 1,000,000 heaters, which is one-fifth of those used on 23,000 acres of citrus orchard land of a total of 43,000 acres. Granted that some of these heaters will be altered to comply with the restriction, there will be many whose change would be too prohibitive in cost. Let's say that one-half of these will be altered and re-licensed. That leaves still a half-million heaters to be entirely replaced, a challenge to any industry.

There are now, and there will be undoubtedly in the future, other ways of employing LP-Gas for heating citrus and other groves. But at least at this time, the "Al-

gas" orchard heating system, perfected and designed by the American Liquid Gas Corp., of Los Angeles, is the one type meeting all the demands of the citrus industry for an entirely smudgeless and smokeless heater. Its main feature is that it fires *downward*, toward the ground. Thus the heat is stopped just where it does the most good, on the ground, and from there it rises *slowly*, of its own volition, and spreads more effectively than if given the original impetus of the gas pressure upward. Small rocks or pebbles under each heater begin soon to glow and their many surfaces emanate radiation heat in all directions. Thus the healthful and helpful infra-red rays reach not only the upper branches of the trees but also affect the lowest branches and reach even the lowest portion of each trunk.

Plan of Installation

In uncultivated groves, where a permanent installation is possible, the heaters are mounted directly on the lateral, between and, for the convenience of easier lighting, to one side of the trees. In cultivated groves, which require the removal of the heaters between seasons, a flexible connection is provided from the lateral to the heater, permitting it to be put out of the way under the tree, or to be removed for storage elsewhere. The laterals may be in such case above or underground. Each lateral carries a pressure regulator and a shutoff valve. This arrangement permits the individual control of each lateral as to output. These regulators are then



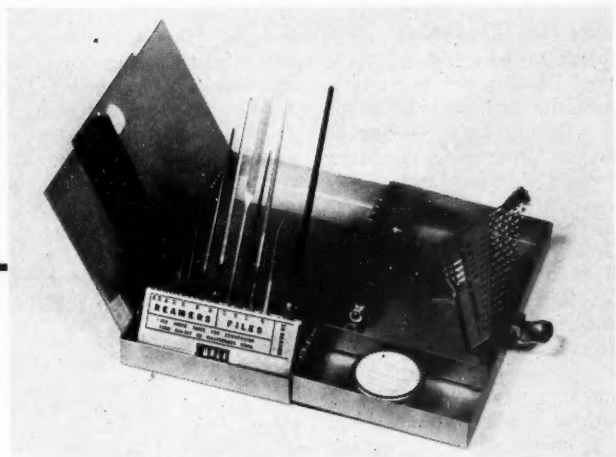
The simple, but highly efficient orchard heating burner designed by the American Liquid Gas Corp., Los Angeles, to supplant oil burners and their smoke in orange groves. The burner flame is directed downward against a pile of rocks which results in spreading the heat as it rises and reducing the fast dissipation of heat that is shot into the air by current oil burner design.

subject to a summary control by means of a centrally located valve. The differential of output of heat on each lateral is maintained with the varying pressure at the main valve.

The laterals are attached to the main, running the length of the grove, and the regulators and valves are protected against accidental damage. The gas is fed to the heaters in its liquid stage and converted to vapor at the heater by a generator. This permits the use of smaller pipelines. The 1-in. main may run at one end of the grove, if desirable, but care must be taken to increase the size of

laterals to accommodate the extra number of heaters.

The normal output of the Algas heaters is from 1000 to 60,000 Btu's per hour. Taking a gallon of commercial butane-propane mix to average a therm (100,000 Btu), the output range of each Algas heater represents a consumption of 1/10 to 6/10 of a gallon of LP-Gas. This will be between 3% and 4% less, if only propane is used. Judging from the Naftel brothers' experience, 15 lbs. of pressure should be the maximum needed under the severest frost conditions. At this pressure level, the Algas heater produces 50,000 Btu's. However, all



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normal firing may be done with a pressure of from 5 to 10 lbs., or at consumption range of about $\frac{1}{4}$ to $\frac{1}{3}$ gal. of LP-Gas per hour. It is this flexibility of control which makes LP-Gas orchard heating so desirable, because it will bring about a decided fuel saving.

Another advantage of the Algas heater is its ability to remain lit, although it may consume as little as $\frac{1}{80}$ of one gallon of LP-Gas per hour. Thus, when it is uncertain whether or not to continue firing, this low rate of output will carry the grower through at a minimum of expense.

The Algas system for orchard heating is available as a package deal. Proper installation, inherent simplicity of control, and carefully planned safety, together with a meticulous adherence to the California LP-Gas code and any special county or city regulations indicate the necessity for a package deal. The resultant comparative freedom from excess maintenance and trouble justify it.

Although the initial installation cost of an LP-Gas system will be some 50% to 100% more than that of an oil system (the difference being dependent on the type of oil system, from the bowl kind to the latest piped type), the flexibility of operation will amortize such difference in a maximum of four average seasons!

The above fuel savings, when LP-Gas is used, comprise only a part of total savings: definite labor saving in lighting and firing care, no extra labor needed to stop heating; no cleaning of the heaters be-

tween seasons; no sludge problem, because there is neither sediments in the pipes nor in the storage tanks to remove; the clean LP-Gas fuel means clean, smudge-free fruit. But above all: no smudge and no smoke upon the country side! And no offensive odors!

Denver Storage for LP-Gas Planned by Phillips Petroleum

Phillips Petroleum Co. plans for early extension to Denver of the present 200-mile petroleum products line currently in operation between the Phillips Oil Co. refinery at Phillips, Texas, and LaJunta, Colo.

The extension will be owned 85% by Phillips and 15% by Shamrock Oil & Gas Corp. It will be 6 inches in diameter and 155 miles long.

Storage tanks are to be constructed at Denver to handle more than five million gallons of gasoline and 300,000 gallons of liquefied petroleum gases. The line and the terminal in Denver are to be completed during the current year, according to announcement.

California Suburban Gas Co. Buys Big Bear Lake Unit

W. R. Sidenfaden, president of Suburban Gas Service Co., Ontario, Calif., has announced that his company has acquired the Mark Rhodes Propane Gas Co., of Big Bear Lake, making the 13th property obtained in the past two years.

The Mark Rhodes business was established in 1945 and developed to the point where it served approximately 1200 individual customers. The acquisition brings to 10,500 the number of customers now served by Suburban.

Establish Customer Confidence!

"THE keystone of our industrial foundation is sincerity . . . it does not pay an LP-Gas company to make exaggerated claims for its product or services, and our company will not retain any salesman who makes such claims, regardless of the volume of his accounts . . . establishing confidence is far more desirable than a period of brisk, high-pressured sales."

Sincerity is that important to B. F. Weaver, president of the B. F. Weaver Co., "Pyrofax" dealer in Miami, Florida. It's one of the most important factors among the four that Mr. Weaver counts as the major forces in his LP-Gas success. The others: The use of newspaper and radio advertising (" . . . I don't see how any sizeable business can be built without them"); participation in civic affairs (Mr. Weaver is an officer in four civic groups and a member of the local and state gas associations); and a novelty products continuing program (" . . . we have more novelties in stock for use as prizes and premiums than are peddled by the usual novelty salesman.")

Stated in another way, Mr. Weaver's theory of business includes use of practical psychology (the use of prizes and premiums) and a sincere and energetic effort to better his community in every way available to him, to hold a high level of service and insisting that his customers get full value from their dollars. The policy has paid off both in profits and in good will since Mr. Weaver added



B. F. WEAVER, Pyrofax dealer of Miami, Fla., bases his success on sincerity, service, and daily participation in the civic affairs of his community. In advertising he has capitalized strongly on a novelty promotion program and follows through in radio and in the newspapers.

bottled gas to his hardware items in 1930, in what was then the Weaver-Hardy Hardware Co.

Today, the hardware company, with which Mr. Weaver is still connected, occupies the building next to his LP-Gas store in Miami.

Mr. Weaver, his wife, and nephew, Rufus Aikens, operate the LP-Gas distributorship. Because the company's activity is confined to the greater Miami area, a large crew of outside salesmen is unneeded. Similarly, since Pyrofax maintains a large company warehouse in Miami, Mr. Weaver finds it unnecessary to carry

By MINNETTE LAKE WARREN



an extensive stock. "We keep an inventory of between \$15,000 and \$20,000 worth of appliances—Servel refrigerators, ranges, and water heaters. Company-owned tank cars make it possible for us to fill gas orders easily and promptly—unless there is a railroad strike, which is always a calamity for us. Sales were restricted recently because of a ban on trucking anything but perishable goods," Mr. Weaver explains.

The novelty-promotion program (Mr. Weaver calls it "our good will program,") includes presentation of cook books, wire pot-scrubbers, plastic aprons, or small gas ovens (price: \$5.75) to customers who bring in prospects. A large window card explains the plan to passers-by and regular direct-mail letters and bulletins are sent out through the company's customer mailing list.

"You'd be surprised at the amount of trade that this simple program

B. F. Weaver Co.'s display at the Miami home show sponsored by the Board of Realtors, Miami, Fla.

has brought us—a little something extra influences a customer to tell his friends about LP-Gas and the B. F. Weaver Co.," comments Mr. Weaver.

Another of Mr. Weaver's principles is to "see a lot of people." His idea is that a friend will patronize you when a stranger would not — and every effort to help the city better itself (through civic groups and church organizations) will pay off, in many different ways. "Business is not always a dollar-and-cents proposition," Mr. Weaver thinks.

Although the company operates almost entirely on a straight cash principle, equipment is rarely returned when credit is used. "In the event of illness or tragedy, we're on the customer's side," Mr. Weaver says.

Reliance

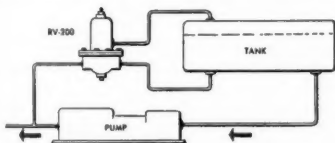
RELIEF

AND DIFFERENTIAL VALVES

protect your equipment!

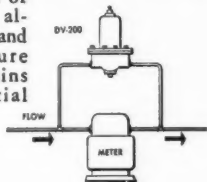
RV-200 Series

Relief Valves for general service to relieve excess liquid or gas pressures. Diagram illustrates one specific use of Relief Valve. Excess pressure on discharge side of pump causes flow through valve back to suction side of pump. Type 200 has metal seat and diaphragm; RV-201 has composition seat and diaphragm.



DV-200 Series

Differential Valves are used extensively in refinery, gasoline plant, and oil line installations to protect meters and pumps and as back pressure valves to minimize vapor lock. Main difference between this type and the RV Series is that pressure on either side of diaphragm is always the same and spring pressure alone maintains the differential pressure.



Both RV and DV Valves are diaphragm actuated with an easy spring adjustment up to 225 psi. outlet pressure. They come in

full range of standard sizes, $\frac{3}{4}$ " to 2",

and are specified in Reliance Bulletin No. 49. Write for your copy today!

AMERICAN METERS

RELIANCE REGULATOR DIVISION

AMERICAN METER COMPANY
INCORPORATED

1000 MERIDIAN AVENUE, ALHAMBRA, CALIFORNIA

Live Advertising Ideas Help Illinois Dealer Build Business

By HARRY L. SPOONER

A WELL integrated promotional program has made the selling of Philgas and Philgas-Tappan ranges a profitable business for Springer Electric Co., Metamora, Ill., a village of 700 population about 17 miles from Peoria.

The Springer Electric Co. is a partnership of E. E. Springer, Joe Springer and Miss Laura Nauman. While the firm's name mentions only the electric business, this is only one phase of the activities of the firm. It also handles hardware, bottled gas, gas and electric appliances, heating, plumbing and sheet metal work in so far as the latter is connected with heating. Along with the selling activities, maintenance of electric, gas and heating systems is a prominent part of the business.

E. E. Springer, senior member of the firm, started in the hardware, plumbing and heating business 22 years ago at a location a few doors from the present store. Later the other two partners joined him. A year ago they built the present attractive building for their type of business. It is already taxing its capacity.

The bottled gas business was added in 1938, the first order being for two ranges and six cylinders of gas. Thanks to its promotional program, and in spite of inability through the war to secure many ranges and in the face of much competition, it now has 191 ranges in operation. It also has a

considerable number of water heaters and some chicken brooders which it serves.

The promotional methods include several forms. Among these is newspaper advertising in the local weekly newspaper, The Metamora Herald. This paper has a wide coverage of the surrounding territory. The ads consist of mats furnished by the manufacturers—some of these feature bottled gas, alcne, but most feature both the gas and appliances.

Displays of ranges, of course, are prominent in the program of publicity. In the Springer store the floor displays and window displays are all one. This is because the new building has picture windows that are flush with the wall and come down nearly to the floor level. The ranges are neatly arranged on the floor adjacent to the window so the entire display is easily visible from the latter.

In the old store, a range was hooked up for demonstration purposes. This has not been done so far in the new store but plans are to do this in the near future.

The village has an annual home-coming event in the village park. In former years the Springer company had displays at these events. However, much better displays can be held in a building than in a tent and the new store, with its big picture windows, faces the park and attracts the attention of visitors as well as



The Springer Electric Co.'s new store front makes an attractive appearance in Metamora, Ill.

before and is much more convenient.

Direct mail is effective in securing inquiries. About 1000 pieces of mail are sent out twice a year, in spring and fall, to rural boxholders and residents of small towns in the area. The literature is furnished by the manufacturers.

Most of the direct mail and newspaper advertising is done in connection with special spring and fall drives to sell ranges. These special drives are more effective than the year-round selling activities because at these times something extra is offered free with the ranges. Cooking utensils are extensively used for this purpose, along with trays that also serve as cover tops for the range. These special drives usually last about 30 days and the response is excellent.

Customers who have purchased ranges are sometimes given a small commission for giving the names of prospects to whom ranges are sold.

Trade stimulators are used extensively. Calendars are distributed every year. The advertising on these, of course, features all the lines handled by the store. Yardsticks and lead pencils are also used. All of these are effective in building goodwill.

The Philgas neon sign in the window attracts the attention of passers-by. It identifies the store and often serves as a reminder to customers that their gas needs replenishing and to prospective customers that they need to install ranges and gas.

A special method of promotion is writing letters to new brides. These are asked to come to the store for a small gift that awaits them. No special gift is mentioned. When they come in, they are asked to select from the extensive hardware stock a gift within a certain price range. It sometimes happens that they wish something of a higher price, in which case they pay the difference. They are

shown the ranges and their advantages explained. While some do not buy at all and others do not buy at the time, many buy later and goodwill is created in all cases.

No matter from what particular source of promotion an inquiry comes, they are all followed up by personal solicitation. Joe Springer is the contact man and he loses no time in checking all inquiries. More sales are consummated through personal solicitation than from any other activity, although other methods may have provoked the inquiry and paved the way for the sale.

"Of course we have some competition with electricity in selling bottled gas ranges," says E. E. Springer. "However, we have more customers that change from electricity to gas than from gas to electricity. This is because gas is cheaper and more dependable than electricity in rural areas because storms disrupt electric service.

"We like to handle bottled gas and appliances not only because these are profitable items in themselves, but also because they furnish business to our other departments. In this, they seem to be a natural. The cylinders furnished are of the 20-lb. size. Two of these are hooked up in a system. One of them lasts the average family about three weeks and, of course, most customers come in and get a cylinder after the first one of the two is empty.

"Because customers come in and pick up the cylinders themselves, our floor traffic is greatly increased and items from other departments of the store are sold at the same time. While many smaller items are sold, our heating department in particular has made some large sales to bottled gas customers as a result of their frequent trips to the store."

"Old Stove Round-Up" Brings New Range Sales

The Protane Gas Service Co., Route 20 at Powell Ave., recently sponsored an "Old Stove Round-up" aimed at boosting the sale of propane gas appliances in the outlying areas of Erie, Pa.

Theme of the event was: "Protane's Old Stove Round-Up offers homes beyond the gas mains the conveniences of a gas kitchen."

Large newspaper ads were employed to push the promotion and the firm invited prospects to trade in their old stove with a \$40 allowance toward the price of a new gas range and a complete Protane system. No down payment was required, the customer's old stove to cover this deposit.

Any Old Range Acceptable

Protane Gas Service Co. accepted any old range regardless of whether it burned coal, wood, electricity or oil. A special payment plan provided payments of \$9.74 a month for 24 months.

For homes already equipped with gas, ranges were available separately without the Protane system.

The company invited prospects to visit its showrooms to see how Protane works. A full line of appliances was in operation and a cooking demonstration was given on the range of the customer's choice.

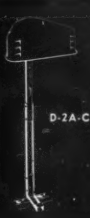
If customers preferred, the company sent its home service director, with portable equipment, to the prospect's home to prepare a meal right on the premises.

The company emphasized in the promotion that "you can count on Protane in any weather for cooking, water heating, refrigeration, home heating."

Select the model that you need from these STAMPINGS HOUSINGS . . . THE COMPLETE LINE

THE D SERIES

This is Stampings finest housing. A one piece cover, no welds, no seams, no joints. Die pressed from heavy aluminum — it will not break. Maximum coverage on ALL regulator outfits. Hinge is entirely protected from weather. Brass pin assures easy free action. Cover is self-supporting when up. See models at right.



Complete unit with hood, post and base form. The post connects to the foot which is anchored in the concrete.

Complete unit consists of hood, post and foot. Reusable metal form [DIF] recommended for pouring base.

Complete unit with hood, post and pre-fabricated base. Ready to install immediately. Easy to set up.

Complete hood and bracket unit for attaching directly to wall of building. Holes adapted to all siding widths.

THE C SERIES

Designed especially for use with small and medium size regulators. Has Stampings quality and features at a good low price. Large output and high production tools make this low price possible. Cover is one piece aluminum, no welds, no seams, no joints will not break. Drawings at right show models available.



Consists of hood, post and pre-fabricated base. Cylinder locator on post for fast servicing. Easy, fast to set up.

Consists of a hood, hinge-mounted on bracket. Attaches directly to wall. Simple to install, easy to service.



THE SH-1

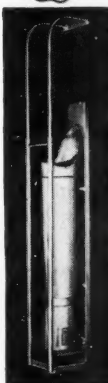
To be used with a standard single cylinder of any size. Easy to install and inexpensive to provide. Will accommodate all standard regulators used on single cylinder installations.



Heavy gauge steel with baked enamel, gray finish. Bonderized to resist rust. Brass pin hinge.

THE CARGO GUARD

This is our new truck heater for protecting perishable cargo. Operates on bottled gas. Automatic thermostat, fuel proof regulators. Uses convection method of space heating, rated at 20,000 BTU. Complete details supplied on request.



Eastern Office at
522—5th Ave.
New York



STAMPINGS INC., DAVENPORT, IOWA

... THE HOUSE OF BETTER HOUSINGS !

Total LP-Gas Sold Is Two-Thirds Of Natural Gas Volume

By K. W. RUGH*

Manager, Philgas Division, Sales Department,
Phillips Petroleum Co., Bartlesville, Okla.

BARELY 40 years ago LP-Gas was first discovered or separated from natural gas; and it has only been the past 20 years that have witnessed its development stage of marketing and its rampant growth, so that today it has become an essential service to this nation's industries, gas utilities, homes and farms and



K. W. RUGH

an important phase of the great petroleum industry and of our national economy.

As recently as 1927 there were only 1,000,000 gallons of LP-Gas marketed in an entire year. In 1949, 2,725,000,000 gallons were marketed. To emphasize the magnitude of the volume sold in 1949, it represents about 20 gallons for every man, woman and child in the United States.

Industrial plants use LP-Gas for economy, because it is a clean fuel,

it has a constant Btu content, it is dependable, and in its application it has the utmost in flexibility. It is shipped to industrial plants in much the same manner as are other petroleum products and used for space heating, metal heat treating, as an atmosphere in carburizing furnaces and for any other industrial fuel purpose.

The manufactured and natural gas utilities use LP-Gas in several different ways.

It may serve as the sole raw material for gas-making for a community and when so used is mixed with air or is undiluted but vaporized and sent through the mains for use in the town. There are about 400 communities in the United States served with LP-Gas in this manner.

LP-Gas may be mixed with natural or manufactured gas to constantly increase the sendout, thus

* This paper, delivered by Mr. Rugh at the April meeting of the Natural Gasoline Assn. of America, constitutes a mid-year report on the LP-Gas industry, including current statistics and prophecies for the future. It has been considerably abridged by BUTANE-PROPANE News. NGAA convention story will appear next month.

augmenting limited manufacturing capacity or lack of natural gas transmission capacity.

It may also be mixed with manufactured or natural gas to augment the supply of gas for peak demand periods during the heating season or as a complete standby to manufacture the complete sendout of gas for the gas utility during an emergency such as a failure in the manufacturing system or a break in the natural gas transmission line.

Standby Demand

The expansion of the gas utility industry which has been accelerated by the extension of large transcontinental natural gas transmission lines will eventually have the effect of increasing the demand for LP-Gas by the gas utilities, because a relatively small liquid storage of LP-Gas at the terminus of the gas transmission line represents a huge reserve storage of gas to augment the supply brought through the transmission line during peak periods or a complete standby storage for reserve in case of a transmission line failure.

It is estimated that there are between 3000 and 4000 LP-Gas bulk stations in the United States.

It is estimated that 78,000,000 individual meals per day are cooked on LP-Gas. On the farm, LP-Gas is used for household purposes, for heating brooders and stock water tanks, supplying the heat for milk can sterilization, for heat requirements in any of the farm buildings and as a fuel for tractors and other internal combustion engines used

for power on the farm, such as for pumping water for irrigation purposes. It is also used for flame cultivation. In this use, tractors pull a vehicle containing a tank of LP-Gas and several sets of burners which direct flame to the weeds growing in the row crops. The flame is set with sufficient intensity to kill the weeds and not harm the row crop.

There about 28,000,000 homes in the United States that use gas. Of these, 12,000,000 use natural gas; about 8,000,000 use manufactured gas; about 1,500,000 use a mixture of manufactured and natural gas and it is estimated that 6,500,000 use LP-Gas. In 1949 gas utilities used 240,000,000 gallons of LP-Gas for gas manufacturing. If you determine the number of homes that could be served entirely with this 240,000,000 gallons and add that number of homes to the 6,500,000 homes and farms served directly with LP-Gas, then, comparatively speaking, LP-Gas supplies as many homes in this country as does the manufactured gas industry and two-thirds as many as does the natural gas industry. In fact, it is estimated that the liquefied petroleum gas industry in 1949 sold 20% more Btu's (heat units) than did the manufactured gas industry.

Domestic Users Increase

During the past 10 years the manufactured gas industry has increased its number of domestic users by 5% and its total gas sendout by 40%. These increases over the past 10 years would doubtless have been much greater had this

particular phase of the gas utility industry not converted considerable of its load to natural gas. During this same 10-year period, the natural gas industry doubled its number of domestic customers and increased its total sales 2 1/3 times. During this same 10-year period, the LP-Gas industry increased its number of domestic users 8 times (from 800,000 to 6,500,000) and its total sales 12 times (from 223,000,000 to 2,725,000,000 gallons).

Retail Sales Soar

There are no definite statistics on the number of business establishments retailing LP-Gas appliances and equipment, but it is estimated that there are between 25,000 and 30,000. Adding the retail value of the gas sold, the retail value of equipment, gas ranges, water heaters, refrigerators, furnaces, space heaters and other miscellaneous appliances, these retail establishments are doing more than a one-half billion dollar retail business annually.

This is a large job being done by such a young industry and it has not yet reached its peak nor has it taken full advantage of all of its market possibilities. New uses and outlets for LP-Gas will be uncovered. The necessary additional long term financial support will come as a result of the increasing confidence in this industry. There are still 10,000,000 to 12,000,000 suburban and farm homes not now using gas and this market represents a huge potential for the LP-Gas industry.

The expanded use of LP-Gas to fuel city bus lines, large truck lines, off-the-highway construction equipment and other internal combustion engine powered units will have the favorable result of leveling off the industry's sales curve because the seasonal demand for fuel for these uses is either relatively even throughout the year or tends to have a greater demand during the summer months. There is today a rapidly accelerating interest in the use of LP-Gas as a fuel for internal combustion engines. There are limitations to the broad, general use of LP-Gas as a fuel for internal combustion engines; however, there are a multitude of specific applications where it will prove to be the ideal and most economical fuel.

Look to New Uses

Both the production and marketing phases of the LP-Gas industry are looking hopefully to either new uses of LP-Gas or to an accelerated expansion of present markets in order to enjoy an immediate increase of large proportion in gallonage sales. It appears certain that increases will be shown. Such large percentage increases as were experienced in the past were the result of new markets tailor-made for LP-Gas. These markets will be expanded but as the initial flush production of sales is dissipated, expansion takes on a slower pace.

New markets discussed above require development work. Among the established markets some increases should be experienced. It is anticipated that greater quanti-

ties of LP-Gas will be consumed in motor fuel, either blended as such or reformed. The extension of our government's synthetic rubber program is now under consideration. Some additional requirements for chemical manufacture can be anticipated. It is doubtful that year-around sales for industrial fuel purposes will increase materially as the amount gained in this field will be offset by losses to natural gas. The immediate effect of natural gas line extensions will be to retard sales of LP-Gas for gas manufacturing. Later, the effect will be to increase sales of LP-Gas.

The home and farm market served directly by trucks or cylinders holds the brightest outlook presently for gains of important magnitude. This phase of the industry is alive to the potential market. It has the energy, the imagination, the organization and the managerial experience necessary. However, in this market, a sale represents an annual increase in gallonage to the industry of maybe 100 gallons, or sometimes 1000 gallons—so it is paramount that to show large industry gains, a huge force in the field is essential. That huge force, that army of salesmen will require support as it is not without the severest of competition.

A producer of LP-Gas can sit back at the close of a year and review the industry's large increases in gallonage and new customers but remember this—and it is important—that each one of those 1,000,000 new customers secured

was sold by someone, somewhere—one at a time.

We have witnessed this industry growing from practically nothing to a position where it can be rightfully ranked with the manufactured and the natural gas industries. Its retail distribution is amounting to better than a one-half billion dollar business annually, and it is increasing its importance due to the many new uses and the many new customers which it is adding to its service each day. The extent of this rapid growth and the strong continued market acceptance support the belief shared by those within this industry that LP-Gas has earned recognition as an essential service in this nation's industries, utilities, homes and farms and that it has become an important part of our total economy.

Florida Dealer Opens New Jacksonville Showroom

The showrooms of the Good Housekeeping Gas Co., Jacksonville, Fla., branch, were opened in May to supply local customers with gas, appliances and equipment. The gas will be supplied from a new bulk plant located at Commodores Point.

J. O. Morgan is vice president and general manager of the Jacksonville branch.

Good Housekeeping Gas Co. is engaged in the wholesale and retail sale of gas in Atlantic and Gulf states and serves users in Panama City and Brunswick, Ga.

A department has been designed for the servicing of commercial and industrial units, and will supply engineering and mechanical data.

Peter Anderson Elected LPGA President

By ED TITUS

WITH a keynote of "sales and service," the 1950 annual convention and trade show of the Liquefied Petroleum Gas Assn. at the Palmer House, Chicago, May 8-11, packed in a record crowd of more than 1800—300 more than a year ago.

Most talked-about topic was the national promotion program for which Lee Brand, chairman of the committee, said it's expected to raise between \$500,000 and \$1,000,000 for the first year.

Peter Anderson of Utilities Distributors, Inc., Portland, Maine, was elected president of the association, succeeding Si G. Darling of Pratt, Kansas, who presided for the year now ended.

The new first vice president is W. S. Lander, president of Rulane Gas Co., Charlotte, N. C. The second vice president elected for the coming year is Foster Mabee of Denver, Colorado.

The board of directors voted to re-employ Howard White in his former position as executive vice president. Mr. White, who attended the convention, was welcomed to the Thursday morning session by the board of directors.

It was voted to give Arthur Kreutzer, who has been managing director during Mr. White's absence, a new title of vice president and counsel. Mr. Kreutzer continues as secretary and Walter Miller of Chicago as treasurer.

The trade show attracted greater attendance than last year and spread out over additional space in the hotel.

The attendance and enthusiasm at the convention and trade show was particularly remarkable in view of the conflict in dates with the Natural Gas meeting in Tulsa.



PETER ANDERSON



W. S. LANDER



F. N. MABEE



HOWARD WHITE



F. R. FETHERSTON



ART KREUTZER



WALTER MILLER



LEE BRAND

It was regarded as unfortunate that for the second year in succession this conflict had occurred, making a problem for some exhibitors.

Next year's meeting will be at the Stevens hotel in Chicago the week of May 6 and the same location was tentatively decided on for the 1952 convention.

A distinguished service life membership was conferred on Mark Anton of Suburban Propane Gas Corp., Whippany, New Jersey.

A considerable number of new members were voted in to the association, including Suburban Propane, Whippany, N. J., and Feulane, of Liberty, N.Y.

Mr. Brand's speech on the promotion program included the following highlights:

"We are engaged in competition with Titans."

In a recent survey, "less than one-third of persons interviewed had ever been called on by an LP-Gas man and a wholly inadequate story was told in most cases."

There will be seven distinct advertising campaigns:

1. Farm consumer.
2. Small town consumer.
3. Suburban consumer.
4. Special appliance promotion.
5. Campaign directed at county agents, home economics teachers, and other rural leaders.
6. Commercial.
7. Intra-industry.

The first advertisement was un-

NEW LPGA OFFICERS

President — Peter A. Anderson, Utilities Distributors, Inc., Portland, Maine.

1st Vice President—W. S. Lander, Rulane Gas Co., Charlotte, N. C.

2nd Vice President—Foster Mabee, Colorado Natural Gas & Fuel Co., Denver, Colo.

Executive Vice President—Howard D. White.

Vice President, Technical Section—F. R. Fetherston, New York.

Vice President, Counsel and Secretary—Arthur C. Kreutzer.

Treasurer — Walter Miller, Dri-Gas Corp., Chicago.

LPGA State Directors—1950

Alabama—Victor Mavity*
 Arizona—Ernest Fannin
 Arkansas—R. J. Dodson
 California—C. L. Parkhill*
 Colorado—H. H. Torbit
 Connecticut—H. S. Rowan
 Delaware—Stanley H. Keen
 Florida—R. C. Woodward
 Georgia—Fred A. Rives
 Idaho—H. H. Morton
 Illinois—Walter Miller*
 Indiana—Joseph Crowden
 Iowa—Charles O. Russell*
 Kansas—G. M. McClellan*
 Kentucky—R. B. Jones
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 Maine—Peter A. Anderson
 Maryland—C. J. McAllister
 Massachusetts—W. F. Muhlbach
 Michigan—Lou Marshall*
 Minnesota—Steve Fligelman*
 Missouri—K. H. Dickson
 Mississippi—S. A. Scott
 Montana—J. J. Kirby

Nebraska—L. R. Forsyth
 Nevada—W. W. Dudley*
 New Hampshire—H. Emerson Thomas
 New Jersey—E. A. Keible
 New Mexico—O. L. Garretson*
 New York—Louis E. Seley
 North Carolina—M. L. Bailey*
 North Dakota—E. M. Levi*
 Ohio—Walter F. Verkamp
 Oklahoma—G. L. Brennan
 Oregon—J. C. Yeomans
 Pennsylvania—H. K. Strickler
 Rhode Island—H. H. Dauphinee
 South Carolina—John W. Du Rant*
 South Dakota—E. J. Gustafson
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 Texas—J. H. Winton
 Utah—J. H. Reese*
 Vermont—D. K. Monier
 Virginia—E. O. N. Williams
 Washington—C. M. Ambrose
 West Virginia—E. P. Connell
 Wisconsin—Harris J. Helmer*
 Wyoming—T. Lovelady

* Newly elected.

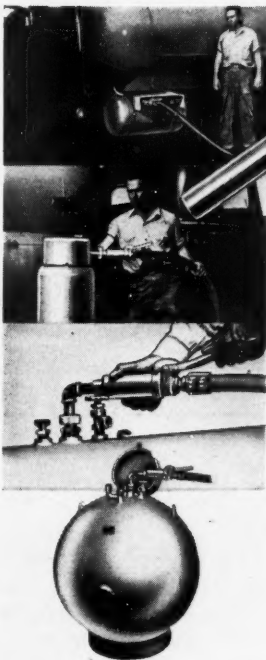


An informal conference, with H. J. Helmer, Badger Gas Co. (left); W. S. Lander, Rulane Gas Co. (seated); Pierre Vinet, Roper Corp., and Steve Fligelman, Consumer's Gas Co.

FOR FASTER AND SAFER L. P. G. DISPENSING

SL

**USE PW-200 QUICK FILLING SAFETY
HOSE NOZZLES IN YOUR OWN PLANT**



For safety sake alone if for no other, this PW-200 Quick Filling Hose Nozzle fits squarely into every L. P. G. Dealer's operation . . . on his station dispenser and delivery trucks.

FILL MORE TANKS AND BOTTLES PER DAY. This fast operating, rugged, easy to handle dispensing nozzle may easily be attached to any L. P. G. filling hose.

Built exclusively by Selwyn-Landers on Parkhill-Wade patents, scores of PW-200 hose nozzles have been in constant use for over 10 years with outstanding performance and complete satisfaction.

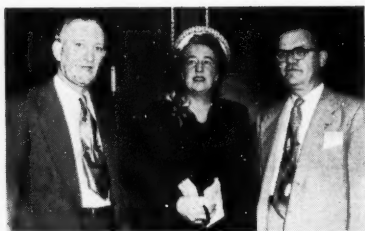
"Better Fittings Improve Your Product"

GET THE FACTS

See It in Section—See It in Use
Illustrated bulletin No. 101 is now ready for distribution. Send for yours today.

SELWYN-LANDERS
COMPANY

4709 East Washington Blvd., Los Angeles 22, Calif.
Designers and Manufacturers of L. P. G. Equipment



New vice president W. S. Lander, Miss Byrne Saunders, Canadian speaker at the convention, and retiring president Si Darling face the camera.

veiled for the audience by the LP-Gas Twins, Miss Propane and Miss Butane, who graced the convention with their presence.

Editing of final suggested revisions in the National Board of Fire Underwriters Standards for LP-Gas (Pamphlet 58) was completed by the LPGA Technical and Standards committee at its April meeting and approved at the time of the May convention. The recommenda-

Mark Anton (right) receiving from H. Em Thomas a "distinguished service life membership" in the LPGA at the recent convention.



THREE GENERATIONS of the Dauphinee family attended LPGA's annual trade show in Chicago in May—further proof that the LP-Gas industry is coming of age.

The eldest—H. H. Dauphinee—was one of the original founders of the association as well as one of the pioneers of the industry in New England. He founded the Suburban Gas Corp. at Hyannis, Mass., in 1924.

Since that time, his son, A. E. Dauphinee, and his grandson, Neil Dauphinee, have become a part of the company. The organization now serves over 5000 customers with branches all over the Cape Cod area.

A. E. Dauphinee is one of the founders of the New England LP-Gas Assn., while H. H. Dauphinee is at present a director of the Rhode Island association.



tions were presented for approval of the National Fire Protection Assn. at its annual meeting in May.

Piping Code Approved

Work of the subcommittee on house piping and appliance installation was also brought to a conclusion at the Chicago session. Its proposed code was also approved by the LPGA board at the annual convention in Chicago.

Some straight-from-the-shoulder facts about the international situation were revealed to the opening luncheon by Admiral Louis E. Den-



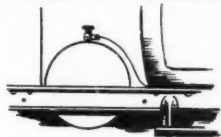
RegO cylinder valve with integral "pop-action" safety relief valve... auxiliary fuse plug optional.



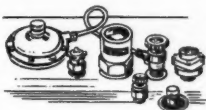
RegO cylinder valve with integral safety relief valve and fixed liquid level gauge to determine contents when filling.



RegO cylinder valve incorporating integral safety relief valve, fixed liquid level gauge and, in addition, an excess flow check valve to safeguard against accidents.



RegO cylinder valve with integral excess flow check valve and 3/8" SAE flare outlet connection.



RegO cylinder valve providing shut-off only. For installations where separate relief devices are provided.



RegO No. 2789 Cash and Carry cylinder valve includes an automatic shut-off mechanism, safety relief valve, fuse plug and outlet connection in a single unit.



RegO is the registered trade mark of the Bostien-Blessing Co.

PIONEER AND LEADER IN THE DESIGN AND MANUFACTURE OF PRECISION EQUIPMENT FOR USING AND CONTROLLING LP GASES

District Officers

District 1, North Pacific — C. M. Ambrose, Jr., Liquefied Gas Corp., Seattle.

District 2, South Pacific — E. C. McEneaney, Diablo Co., Walnut Creek, Calif.

District 3, Mountain States — Foster N. Mabree*, Colorado Natural Gas & Fuel Co., Denver.

District 4, North Central — E. L. Mills, Bastian-Blessing Co., Chicago.

District 5, South Central — Louis A. Abramson, Jr.* Petrolane Gas Co., New Orleans.

District 6, South Eastern — W. S. Lander, Rulane Gas Co., Charlotte, N. C.

District 7, North Eastern — Walter Naumer*, Union Carbide & Carbon Corp., Pyrofax Gas Div., New York.

District 8, Canada — W. Walsh*, Liquefied Gas Utilities, Ltd., La-
chine, Quebec, Canada.

District 9 — V. Rassvetaieff*, Isabel La Catholica, Mexico.

*Re-elected and newly elected.

Section Chairman

Marketers — Harris J. Helmer, Badger Gas Products, Platteville, Wis.

Appliance Manufacturers — Pierre Vinet, Geo. D. Roper Corp., Rockford, Ill.

Equipment Manufacturers — Joseph Ketner, Delta Tank Manufacturing Co., Baton Rouge, La.

Producers — H. W. Rigterink, Sun Oil Co., Philadelphia, Pa.



"Miss Butane" and "Miss Propane" were popular at the LPGA Chicago convention. They are Beverly and Barbara Dahm, of Evanston, Ill.

International — Paul Thompson, Standard Oil Co. (N.J.), New York.

Utilities — K. J. Forderbrugen, Minnesota Valley Natural Gas Co., St. Peter, Minn.

feld, former Chief of Naval Operations.

Unfolding the vast untapped possibilities for the continuing growth of the butane-propane industry, Mr. Darling pointed out that the six and a half million families now served with LP-Gas are matched by another six and half million using out-moded fuels who are potential customers. And there are another six and a half million using electric appliances who are potential customers.

The Same "Silent Passenger" Rides in Each Vehicle



In every shipment of SINCLAIR LP-GASES a very important "silent passenger" rides. He is called Hidden Ingredient—and is made up of such things as INTEGRITY, REPUTATION, RESPONSIBILITY, PERFORMANCE, and REAL SERVICE.

That is why consumers call for Sinclair LP-Gases. They know they get products of the highest heating value, expertly refined, with all moisture and impurities removed.

SINCLAIR

A Great Name in Oil

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ASSOCIATIONS



CY CARNEY



JOHNNIE PORTER

Arkansas

Well-known industry speakers are scheduled to speak before the Arkansas Butane Dealers Assn. at its annual convention and trade show, June 11-13, at the Lafayette hotel in Little Rock, according to Johnnie Porter, executive secretary. Visitors from more than 25 states are expected to attend the event.

Talks will cover salesmanship, safety, and insurance. Ivan Patterson, General Gas Co., Baton Rouge, La.; Carl Sorby, Geo. D. Roper Corp., Rockford, Ill.; a representative of the U. S. Bureau of Mines; a field engineer from a national insurance company; Earl Hoar, director of the association and co-owner of the Carroll County Butane Gas Co.; Ernest Fannin, Fannin's Gas & Equipment Co., Phoenix, and past president of the national LPGA; and T. G. Tackett, president of the National Butane Gas Co., Memphis, are among the scheduled speakers.

In addition to the talks and busi-

ness sessions, social activities have been planned in detail. The Friendship Hour will open the convention on Sunday evening. An Eskimo "Lapulak" party will be held Monday night, and the annual banquet-dance will close the convention Tuesday night.

Special day-time affairs for the women guests are being arranged under the direction of Mrs. Cy Carney, wife of the president of the Arkansas group.

Central States—LPGA

Dealers from Kansas, Oklahoma, Nebraska, and Missouri are expected to turn out for the Central States

District convention and trade show of the Liquefied Petroleum Gas Assn. at the Broadview hotel in Wichita, Kan., June 5-6.

According to R. C. Tanner, district secretary, most of the booths for exhibits have already been reserved by manufacturers



A. T. CARROW

and distributors of LP-Gas equipment.

Speakers will include Floyd Selim, Philgas division, Phillips Petroleum Co., Bartlesville, who will speak on tractor carburetion. An open forum will follow his address.

A. T. Carrow, Midwest manager of Cribben & Sexton, Omaha, Neb., will

8 good reasons why more companies are buying Harrisburg Lite-Weight Propane Cylinders



With aluminum
ground coat.

With red oxide
ground coat.



They're built to a standard, not to a price, from high tensile strength alloy steel with uniform sidewall thickness and controlled physical properties.

They're light without being weak. Capacity of 100 lbs. with minimum practical tare weight of 72 lbs. means you get a full-capacity cylinder with in-built strength.

They're made to I.C.C. Specification 48A-240, the required standard for a quality LP gas cylinder.

They're rigidly inspected and tested every step of the way . . . subjected to accepted industry tests plus many of our own . . . including hydrostatic testing to 480 p.s.i.

They have smooth-side construction, without ridges or bulges, for easy handling on and off of trucks.

They offer flexibility: being supplied with or without caps, with or without valves inserted, with your serial numbers and registered mark at no extra cost, in Domestic or Export types.

They're supplied with two choices of ground coat: aluminum or red oxide, as you prefer.

They're made by a 97-year-old company which pioneered in the manufacture of gas cylinders in this country, and developed many of the specifications for gas containers since the industry began.



**MAIL
THIS COUPON
FOR
FULL DETAILS**

Harrisburg Steel Corp., Harrisburg 4, Pennsylvania

Quote us prices on quantity of . . . Lite-Weight
Cylinders: () with caps; () without caps; () with
valves inserted; () without valves inserted.

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Harrisburg
STEEL CORPORATION
HARRISBURG 4, PENNSYLVANIA



**7 YEARS IN
PENNSYLVANIA'S
CAPITAL**

JUNE — 1950

present a talk entitled "There's Something Extra in a Flame."

An educational film on the proper installation and servicing of water heaters and one on temperature-pressure relief valves will also be presented. Plans for other talks include an outline of the objectives and a review of the progress of the National Committee for LP-Gas Promotion which has already inaugurated a national publicity campaign.

Colorado

In line with the plans to hold the annual convention and trade show in the early part of the year instead



HARRY TORBIT

Pete Kanekeberg, Foster Mabee, and Harry Torbit.

According to James Crawford, ex-

of the fall, the Colorado LP-Gas Association will meet June 18-20 at Troutdale-in-the-Pines, Evergreen, Colo.

A full program, both entertaining and educational, has been planned by the convention committee headed by Jimmy Thompson and assisted by Walt Parkins,



"Troutdale-in-the-Pines," Evergreen, Colo., where Colorado dealers will meet for their annual convention, June 18-20.

To select the BEST regulator for the job

You don't have to be a long haired professor or

Use a bike when you need a truck



because

FISHER builds a fine regulator for every size and type of LP Gas System



20 LB



TYPE 912R
"LITTLE JOE"



TYPE 67A
"FIRST STAGE"



TYPE 722V



1000 GAL



20 LB



TYPE 912Y-1B50A



TYPE 940



TYPE 932 "HUSKY"



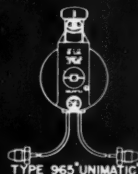
750 GAL



100 LB



TYPE 923



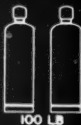
TYPE 965 "UNIMATIC"



TYPE 922



375 GAL



100 LB



100 LB



100 LB



420 LB



115 GAL



300 GAL

FISHER GOVERNOR CO. Marshalltown, Iowa
 Eastern Office: 212 East State St., Westport, Conn.

ecutive vice president of the group, displays of exhibitors will be shown to good advantage in the mountain resort hotel located about 30 miles from Denver.

Florida

The sixth annual convention of the Florida Liquefied Petroleum Gas Assn. was held April 27-29 at the Palm Beach Biltmore hotel in Palm Beach, according to L. B. Stokesberry, newly elected secretary-treasurer.

New president of the association is J. A. Garfield, president of Miami Bottled Gas, Inc., Miami. Don Stowe, Hydrogas Co. of West Florida, Inc., was elected vice president.

F. B. Surguine, Jr., outgoing secre-

tary-treasurer, reports that the association is growing rapidly and the recent meeting was the largest to date.

New directors include Mr. Surguine; A. W. Spiller, of St. Augustine, former vice president of the group; and R. D. Berry, Jacksonville.

Georgia

Elected to the presidency at the April 6-7 meeting of the Georgia LP-Gas Assn. in Atlanta was Richard Mills, president of Mills Gas & Appliance Co., Louisville, Ga. Dan Boone, president of Dan Boone Gas & Appliance Co., Newnan, was elected vice president. Ben Cain of Griffin was re-elected secretary-treasurer. The retiring president is Sam Barber.

After hearing R. H. Mahnke, as-



Newly elected officers of the Georgia LP-Gas Assn. (left to right): Dan Boone, vice president; Richard Mills, president; James Harper; and Ben Cain, re-elected secretary-treasurer.

NEW UTILITY FURNACE HANDLES POTS TO 10"

THE NEW Ransome Utility Furnace shown here is an item that plumbers and sheet metal workers have been clamoring for—a butane-propane burning furnace that will handle all sizes of pots from 6 to 10 inches, with gas cylinders of adequate capacity. So here is the new furnace that will melt 25 pounds of lead in an 8" pot in 17 minutes. It's useful also in melting babbitt, asphalt, paraffine, sewer compound, wax, glue, etc., as well as heating soldering irons. Available with 2½ gallon cylinder (Model P-32) or with 5 gallon cylinder (Model P-32A). Will burn 13½ hours on one gallon of L.P. Gas. The burner is stable over a wide pressure range. A needle valve gives close control of heat for any application. L.P. Gas dealers will find it a profitable sales item as well as a load builder.



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DESIGNING AND CONSTRUCTION ENGINEERS

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**DON'T DELAY—
GET RESULTS
THE
RANSOME WAY**

RANSOME COMPANY P-32

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Without obligation, please send latest copy of Ransome Co. Torch Catalog and price list.

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Ransome

sistant director of the national Liquefied Petroleum Gas Assn., speak on the state integration program of his association, the 225 members of the Georgia group who attended the meeting voted unanimously to join the movement. The establishment of a district LPGA office in the area may be made soon.

Other highlights of the convention, according to Sid Stapleton, former president of the association, included talks by LeLand Fiegel, Servel, Inc., who spoke on the water heater market; M. L. Trotter, Carolina Butane Gas Co., national LP-Gas promotion; R. G. Taber, Atlanta Gas Light Co., who spoke on cooperation between utilities and LP-Gasmen; John Guardiola, Weatherhead Co., "Let's Give Advertising the Attention It Deserves."

A good part of the meeting was devoted to a thorough and complete discussion of the new Georgia LP-Gas law. State Fire Marshal Robinson, together with Mr. DeBerry, who is directly responsible for supervising and enforcing the law among the dealers, led this part of the program.

The attending membership indicated that the industry in Georgia is anxious to work with the fire marshal and feels that the law is workable.

Ohio

Several speakers have been lined up for the annual convention of the Ohio LP-Gas Assn., June 12-13, according to Bob Brumby, president of the association. The Fort Hayes hotel in Columbus is convention headquarters.

J. Richard Verkamp, Verkamp Corp., Cincinnati, will give a report on the activities of the national LP-Gas promotion program. M. A. Ennis, Crib-

ben & Sexton Co., is scheduled to deliver a talk entitled "Glamorizing Your Btu's." After-luncheon speaker will be Judge James Garfield Stewart, former mayor of Cincinnati and present supreme court judge in Ohio. Forrest Fram, president of the National Butane-Propane Assn., will also be on the program.

Associate members of the association will provide the "Social Hour."

Louisiana

The Butane-Propane Institute of Louisiana met April 13 in Alexandria to elect new directors who, in turn,

will select the 1950-51 officers of the Institute at a July meeting.

New directors are: R. D. Phillips, Howard Pecot, V. N. McNelly, Frank Robertson, Edward McCormack, Louis Abramson, Jr., L. M. Waguespack, and Victor Lagrange.

L. ABRAMSON, JR.

The main problem confronting Louisiana LP-Gas dealers has been the threat of placing the industry under the jurisdiction of the Louisiana Public Service Commission. However, the industry has apparently been successful in opposing the move.

The 65 dealers in attendance at the meeting agreed informally to ask the state legislature to regulate their business more strictly. Briefly, the Institute will recommend two major changes in the bill; namely, an increase in permit fees and enlargement of the state Liquefied Petroleum Gas Commission to five members.



Texas

The fifth annual convention of the Texas Butane Dealers Assn., June 22-24 at the Blackstone and Texas hotels in Fort Worth, promises to be the biggest one in association history, as evidenced by advance registrations.



BILL LAWSON

Convention committee chairman E. O. Brown, Capitol Butane Co., Austin, states that one of the most interesting and important talks at the meet-

ing will be a report by Dean Whiffen, of the State Insurance Commission, on the progress of the rate survey now under way. The object of the survey is to reclassify butane risks and set up separate classifications for them.

Also on the program will be a demonstration of the characteristics of static electricity, conducted by the U. S. Bureau of Mines.

Bill Lawson, executive secretary of the TBDA, has had the cooperation of the Fort Worth hotels and the Chamber of Commerce in streamlining convention plans so that maximum benefit may be assured.

Indicating that this annual convention is more than just an opportunity to get together and enjoy entertainment features provided, W. R. McCright, president of the association, states that "... these meetings are serious occasions, important events in our industry." He urges every member of the TBDA to be present and take an active part in the discussion and proceedings.

CALENDAR

1950

June 5-6—Central States District, LPGA. Broadview Hotel. Wichita, Kans.

June 11-13—Arkansas Butane Dealers Assn. Annual convention and Trade Show. Lafayette Hotel. Little Rock.

June 11-14—3rd Eastern LP-Gas Service School. University of Bridgeport. Bridgeport, Conn.

June 12-13—Ohio LP-Gas Assn. Annual Spring Meeting. Fort Hayes Hotel. Columbus, Ohio.

June 18-20—Colorado LP-Gas Assn. Annual Convention and Trade Show. Troutdale in the Pines, Evergreen, Colo.

June 18-21—American Society of Heating & Ventilating Engineers. Semi-Annual Meeting. Royal Muskoka Hotel, Muskoka Lakes District, Toronto, Ontario, Canada.

June 22-24—Texas Butane Dealers Assn. Blackstone and Texas Hotels. Fort Worth.

July 12-13—National Butane-Propane Assn. Directors meeting. Rhinelander, Wis.

July 23-26—Mid-Continent LP-Gas Service School. University of Kansas. Lawrence.

July 24-26—Mid-Continent LP-Gas Service School. University of Kansas. Lawrence, Kans.

Aug. 21-22—Kentucky LP-Gas Assn. Annual Convention and Trade Show. Seelbach Hotel. Louisville.

Sept. 13-15—National Petroleum Assn. Hotel Traymore. Atlantic City, N. J.

Sept. 18-19—National Butane-Propane Assn. Annual meeting. Hollenden Hotel. Cleveland, Ohio.

Oct. 2-6—American Gas Assn. Annual Convention. Atlantic City, N. J.

Oct. 2-6—Gas Appliance Manufacturers Assn. Exhibition of Gas Appliances and Equipment. Atlantic City, N. J.

Oct. 5-6—LPGA North Eastern District Meeting. Ambassador Hotel. Atlantic City, N. J.

Oct. 16-20—National Safety Congress. Chicago, Ill.

Nov. 6—North Dakota LP-Gas Assn.

New California Association Plans Higher Safety Standards



JAMES POTTER



BILL ANDREWS

If the enthusiasm and energy of the officers and board of directors of the Liquid Gas Dealers' Assn. of California is any criterion, there will soon be a strong organization functioning throughout the Golden State. This was clearly demonstrated at the first annual meeting of the association at the Mayfair hotel, Los Angeles, May 12.

First in the objectives of the organization is the drafting of a recommended code of safe practices that will meet with the approval of gas dealers and state authorities, and providing for an enforcement policy that will raise the standards of installations.

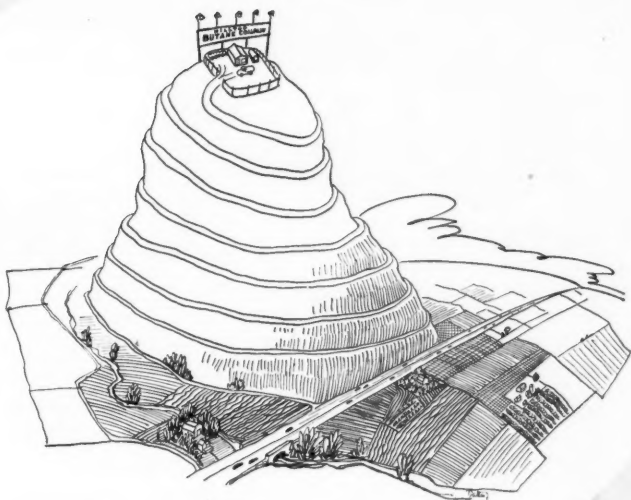
Part of such a plan would be provision for the licensing of dealers and possibly the delegating by the state of authority to the dealers to make their own inspections of installed systems.

The result would be expected to bring about an elimination of irresponsible or careless dealers because the knowledge and capabilities of dealers, truck drivers, installers, and servicemen would be determined by state examinations before licenses would be granted. All would operate under a bonding plan, possibly. Chairman of the code committee is Gene Morrison of Yuba City.

To clarify the policies of the California Division of Industrial Safety in interpreting the current California LP-Gas code, Henry H. Clute appeared before the group and answered innumerable questions regarding code provisions. It was a lively question-and-answer session with nearly everybody in the audience taking part.

Preceding Mr. Clute, Roger Gramont, credit manager of Standard Oil Co. of California, addressed the meeting upon the subject of "Credit Administration Outlook." He made it very clear that collections could be made promptly and without engendering resentment on the part of the delinquent customers, but insisted that to attain that end, dealers must have a firm collection policy and follow it to the letter. Questions from the audience brought out a great deal of additional information that was helpful to dealer organizations.

In the morning session of the



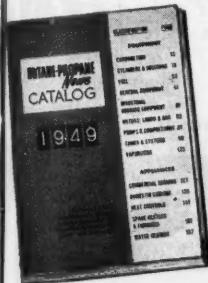
Are you a forgotten man?

Are you one of those LP-Gas men who are located in out-of-the-way places, frequently overlooked by a manufacturer's salesman?

Don't let this obstacle prevent you from serving your customers with the latest in equipment or appliances. You can carry the products of over 140 manufacturers direct to their door by using your Butane-Propane News Catalog File!

The illustrations, descriptions, and specifications contained in each catalog will demonstrate the product for you. Make your sale, then contact the manufacturer for quick delivery.

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Here's your answer to the consumer demand for an efficient method of low cost heating . . . EMPIRE RECESSED HEATING SYSTEM.

This *high quality*, completely new innovation in heating gives *clean, dependable, zone-controlled heat* at an amazingly low initial cost . . . *Low operating cost.*

It's *easy installation* on standard 16 inch studs, means added savings for you, with *service calls at a minimum* and, few, if any call-backs.

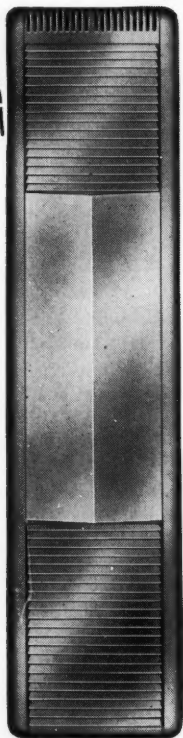
Write today for full information, and prepare for a big year of . . . *increased sales . . . greater profits* with EMPIRE RECESSED HEATING SYSTEM.

**DESIGNED TO MEET
NEW 1951 REQUIREMENTS**

New "T" type Thriftmatic burner designed exclusively for EMPIRE RECESSED HEATING SYSTEM. Burns any type of gas . . . natural, manufacture, liquified petroleum.



**Gas
BURNER**



EMPIRE STOVE CO. BELLEVILLE, ILLINOIS
MANUFACTURERS OF GAS COOKING & HEATING APPLIANCES

board of directors, the entire staff of last year's officers was re-elected, giving a second term to James L. Potter, Garden City Butane Service, Santa Maria, as president; William P. Andrews, Andrews Butane Co., Long Beach, vice president; and Jack Douglas, Douglas Gas Service, Woodland, secretary-treasurer. Bylaws of the organization require officers to be elected from the membership of the board.

Executive Secretary Named

The board also elected as executive secretary, George Requa, Rotary-Sierra Co., Sacramento. (See Page 128.) His headquarters office will be in Sacramento. Mr. Requa will hereafter carry the responsibility of building up the association membership and conducting a great deal of its detail business.

The morning after the meeting, the entire group was taken in a special bus to the manufacturing plant of the American Liquid Gas Corp., Los Angeles, where a demonstration was made of the operation of a tractor on the new vapor system of carburetion. An inspection of the "Algas" plant followed, with later refreshments and the drawing of a door prize consisting of a complete vapor kit. The prize was won by D. H. Hiebert, district supervisor of Calor Gas Co., Oakland. Roland Usher was in charge of the Algas tour and Fred Souers handled the tractor demonstration. Other Algas officers assisting were W. T. Hagny, secretary, and H. B. Davidson.

Saturday afternoon attending membership witnessed a gas vs.

electricity cooking demonstration given by the Southern California Gas Co. in its Los Angeles auditorium. This part of the program was under the direction of J. W. Guffey, one of the board members and chairman of the district centering in Bakersfield. Miss Maxine Howe performed the technical operations.

The same evening a banquet with entertainment and dancing was given in the Rainbow Isle of the Mayfair hotel. Chairman of the entertainment committee was LeMar Jackson, director of District 9.

The next board of directors meeting will be held July 23 in Fresno at the Hotel Californian.

Pottergas Service, New York, Sold to Suburban Propane

The Pottergas Service of The Pengas Corp., of Syracuse, N.Y., has been acquired by Suburban Propane Gas Corp., Mark Anton, Suburban Propane president, has announced.

Pottergas has been supplying about 7000 customers with propane gas in that area. Recently Suburban purchased Cortland LP-Gas Corp. Charles W. Potter, founder of Pottergas and president of Pengas Corp., is retiring. John J. Stroud, until recently manager of Suburban's Richfield Springs property, will manage the new acquisition.

Mr. Anton said present employees will continue. Suburban Propane will also seek to extend its service and will build a 30,000-gallon bulk plant, offices and appliance showrooms. Pottergas customers will receive service from the same local facilities as formerly.

Suburban Propane operates in nine states.

Raise Compression Ratio To Raise Engine Efficiency

What is the practical limit in improving mileage and performance?

By CARL ABELL

ONE of the most frequently recurring questions in our mail is, "In equipping engines to burn LP-Gas, must I raise the compression ratio?"

The answer is, "Not necessarily, but it is frequently desirable."

The vast amount of confusion which exists on this matter of compression ratios is the result of the wide-spread acceptance of three well-known facts without bothering to consider the surrounding limitations. Here are those three facts:

1—LP-Gas has an extremely high octane value, and will operate without knocking in very high compression ratios.

2—Higher compression ratios give more power and more economy of fuel.

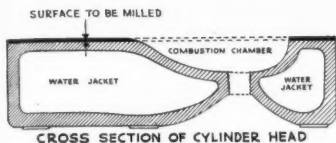
3—There are no spark ignited engines in production today with compression ratios high enough to utilize the full octane value of LP-Gas.

Therefore, in converting engines

to LP-Gas, why shouldn't you raise the compression ratio way up, like 8 to 1, or 12 to 1? And how do we go about it? There is where the confusion starts.

In answer to the question, let us be guided by an accepted fact—a chain is no stronger than its weakest link. Automotive type engines designed throughout for operation on LP-Gas are still very rare. Nearly all spark ignition engines now in use were designed to run on some other fuel of lower octane value. The compression ratios selected by their manufacturers were based on (1) the nature and octane value (or cetane value) of the fuel available at that time; (2) the size and design characteristics of the combustion chambers, cylinders and pistons, and (3) the altitude at which the engine is expected to be used.

POWER



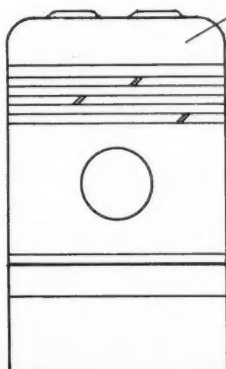
All of these factors affect the permissible compression ratios in the spark ignition engines which the average shop will be called upon to convert. (A few four-cycle diesel engines have been converted very successfully, but this is out of the range of most shops.) Compression ratio is the most important factor in determining the working pressures in the engine, and the pressure not only governs the power output; it also determines the need for strength and rigidity within the engine.

Realizing that strength and rigidity cost money, and that any in-

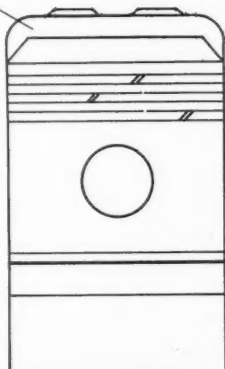
crease in either would cost still more money, if you were designing engines, how much factor of safety would you add in these respects beyond that actually demanded by the pressures which you expected the engine to develop? Certainly you would not go to the expense of building an engine for 10 to 1 compression if you never expected it to be stressed beyond 7 to 1. Neither did the engineers who built most of the engines on which you will work. The 10 to 1 ratio engine, however, is perfectly practical. The Twin Coach Co. builds one now, and there will be others.

Nearly all engines which you will convert were designed for the gasolines which were in general production in the year that the engines were built. There is a surprisingly small difference in the octane values of various brands of

COMBUSTION CHAMBER

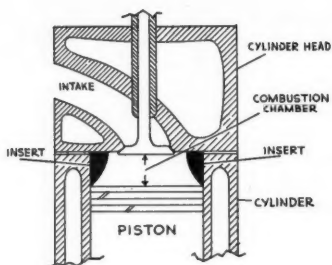


STANDARD PISTON



HIGH-DOMED PISTON

Increasing compression with high domed pistons.



Increasing compression with cylinder inserts.

any corresponding grade of gasoline in any given year, so the engine designers have standards to guide their work. They know that year after year these octane values will improve, so this year's compression ratios will be safe with the gasolines of next year and the years to come. Competition among refiners automatically takes care of that.

A clear understanding of what happens when fuel burns in a combustion chamber, and the relation of pressure to power, will help a great deal in understanding why engines are built as they are, and the limitations within which you must work in your conversions.

Power comes from the pressure exerted on the pistons by heated vapors. The heat is produced, of course, by burning the fuel mixture—hydrogen and carbon from the petroleum fuel, and oxygen from the air. When the fuel burns normally, the pressure in the cylinders is multiplied by approximately four times. Normal combustion is not in any sense an explosion, al-

though that is what it is commonly mis-called.

In normal combustion the fuel mixture starts to burn at the spark plug, and the flame travels at a nearly uniform and fairly slow rate of speed through the combustion chamber, burning all of the fuel as it passes. This produces a smooth and steady rise in pressure, much more like steam than you might imagine, and all the power which that particular charge of fuel is capable of producing in that engine. The engine structure must be sufficiently strong and rigid to withstand the full amount of pressure developed by as much fuel as the engine can take in with the throttle wide open.

Operators May Let Fuel Knock

Actually, the designer builds it somewhat stronger, because he knows that in some cases the operators will allow fuel to knock, either through the use of a grade of fuel below what the engine should have, or as the result of poor maintenance practices, or from timing the ignition too early in an effort to attain a little more power.

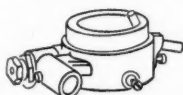
"Knocking" combustion differs from normal combustion in that after a portion of the fuel has burned at the normal fairly slow rate of flame travel, the remaining fuel ignites spontaneously, and explodes all at once. This explosion produces nearly four times the pressure that would be developed by the normal combustion of the amount of fuel that has exploded. Instead of a steady increase of



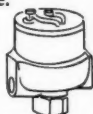
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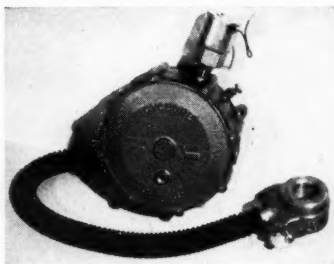
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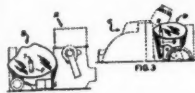
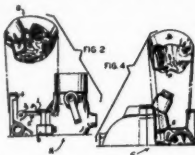
pressure, the sudden explosion delivers a hammer-like blow on the piston—tries to shoot it out the cylinder like a projectile being shot out of a cannon. This transmits a shock throughout the engine, and if allowed to become excessive, or to continue over too long a period, it becomes too great for the design strength of the engine, and failure results.

Engines Last Longer on LP-Gas

Building the engine stronger would enable it to take more of this beating, but it would require larger and heavier parts and an increase in production costs. There is no sound reason why an engine should be built with more than a reasonable factor of safety for the fuel that it is expected to use. This "reasonable factor of safety" with a fuel that knocks provides a considerable margin with a fuel which will not knock. This is the principal reason why engines last longer on ethyl gasoline and LP-Gas than they do on ordinary gasoline. It also provides you with a reserve strength in the engine to permit a moderate, but not an extreme, increase in compression with knock-free LP-Gas.

Compressing the fuel charge tighter before it burns produces more power, so long as the fuel does not knock. Remember, we stated up above that normal combustion multiplies the pressure on the piston by about four times. Let's do a little fifth grade arithmetic with that. If the compression pressure before ignition is 100 pounds per square inch, the pres-

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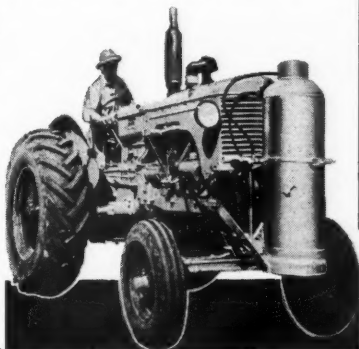
The **Garretson System** was designed especially for the dealer's benefit. Complete LP-Gas carburetion systems, including carefully engineered brackets for fuel containers, are supplied at minimum cost to increase dealer's fuel load. Entire installation easily made in shop or field in less than two hours—only two simple adjustments required. New type "Z" fuel controller eliminates service calls and performs with maximum power and maximum economy for many years. Thousands of satisfied tractor owners throughout the country are selling their neighbors on converting with a **Garretson Carburetion System**.

Investigate the original complete low cost system that has swept the country, proving that the tractor fuel market will soon belong to the wide awake LP-Gas dealers.

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FOR BETTER CONVERSIONS (TO L-P GAS)



Make every conversion a better installation by using an Ellis Manifold designed especially for LP-Gas. Your customers will find they get more power and mileage . . . and you will get more customers.

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sure rises to about 400 pounds per square inch during combustion. That pushes the piston down, and produces power.

Now suppose you make the combustion chamber smaller (raise the compression) and find that your compression reaches 120 pounds per square inch. Combustion, if normal, raises that pressure to about 480 pounds. That is a big increase in pressure, and it produces a lot more power. In the performance of the vehicle it looks like a bigger gain than it actually is, because the friction losses in the transmission system, tires, etc., which use up from a fifth to a third of the original engine horsepower, remain the same. The increase in engine power is all net gain, available to handle the load. It feels bigger than it actually is.

Answer to Consumption Angle

Now let's find the answer to this fuel consumption angle. Suppose we figure it out on the basis of truck operation, which involves getting the load through traffic and up to highway speed, and negotiating occasional hills along the route. The throttle is wide open during acceleration and on hills, and open just wide enough to maintain the desired speed on the level.

With the throttle wide open, the same amount of fuel is taken in per suction stroke regardless of compression ratio, hence at full throttle operation the fuel consumption is the same. But the high compression engine gives more power with the throttle wide open, therefore it gets the truck through

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ALGAS 1600 SERIES DUAL-FUEL UNIT

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PRINCIPLE

Designed to fit standard gasoline carburetors, this rugged, dependable unit offers both LP or gasoline operation. Multi-Jet principle assures complete and instant mixing of fuel with air.



Pictured at the left is the 1600 Series Dual-Fuel Unit. For complete conversion a 1500E Converter, 670 Filter, Idle Plate, and an Installation Kit (hoses, etc.) is required. ALGAS also offers a 1400 Series straight LP Mixer for use where dual-fuel operation is not required.

There is ALGAS Equipment available for any internal combustion engine.

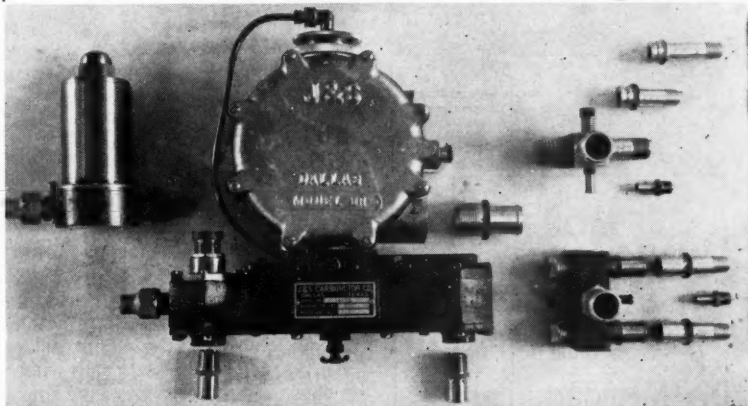
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The J. & S. Vaporizer and Regulator Unit ... converts all carburetors to LP gas!



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J. & S. Carburetor Company

Dallas, Texas

the gears and up to highway speed in less time, and will generally pull the hills in a higher gear ratio. The throttle is therefore wide open less of the time, and the truck stays in high gear, which is the most economical, more of the time. That alone results in a saving of fuel, but that is not all.

Cruising along on the level, the throttle is opened only wide enough to hold the desired speed. It takes just so much horsepower to move a given load at 40 miles per hour, regardless of whether the engine has a compression ratio of 4 to 1 or 7 to 1. The driver opens the throttle wide enough to produce the desired amount of power. With the high compression engine the same power is produced from a

smaller amount of fuel—the throttle is not open so wide, and the miles per gallon are increased.

The majority of modern passenger car engines are designed with compression ratios which come pretty close to developing the full potential power of 90 octane gasoline, and yet operate with reasonable satisfaction at a later ignition timing, lower peak power, and somewhat shorter life on regular grade gasoline. The factor of safety is set with these conditions in mind, and most of the manufacturers consider that it is not necessary to offer higher compression ratios.

Also in current "L-head" passenger car engines the standard compression ratios are getting rather close to the limitations inherent in the L-head design, and the gains accomplished by raising the compression are not so great as they were when standard ratios were lower.

Some Have High Compression Heads

Only Hudson, Nash, Pontiac, Studebaker, and Willys offer high compression heads for their recent models. In converting these engines, the factory-made high compression heads should be used if an increase in compression ratio seems desirable. On the other makes, the power and mileage should be reasonably satisfactory without changing the compression.

In the relatively few cases where it does seem necessary to shave the heads, only a moderate cut should be taken off. In the L-head engines of current production, mill-



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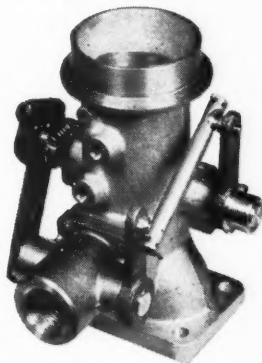
ing off more than 1/16" is not advisable, as a deeper cut would be quite likely to weaken the head too much, and lowering the combustion chamber dome would interfere with the free flow of gas into the cylinder and make the high-speed performance not so good.

Older passenger car engines, which had lower compression ratios, sometimes present a different situation. In many cases the later models of the same engines have higher compression heads which will interchange with the old heads, and if this is the case, it is better to use the later model heads than try to mill the old ones. If there are no higher heads available and it is really desirable to raise the compression ratio, then the same instruction given above should be followed—limit the cut to 1/16". This will give an increase of close to one compression ratio, and its effect on the engine will be considerable.

Check Head Before Milling

Before undertaking to mill any head, it should be checked carefully to see that the "deck" is thick enough to hold the pressure after the required thickness of metal has been removed. In a small head, the remaining metal should be at least 1/8" thick, and on a larger head, it should be at least 3/16". If not, the head should not be cut. This should be determined for each head by measuring the thickness of the metal through all of the water circulation holes. The heads are not always uniform, as the cores

CENTURY



CENTURY 3C Dual Throat Carburetor with POWER CONTROL TUBE

This exclusive feature gives correct power mixture on Dual Throat LP-Gas Carburetors with single power adjustment. Perfect distribution to all cylinders is assured—with no deflection of fuel to one side of manifold.

Notice to Ford Owners

We now have a complete line of LP-Gas carburetors for all Ford trucks and bus motors with Ford ignition systems.

Century Gas Equipment Co.

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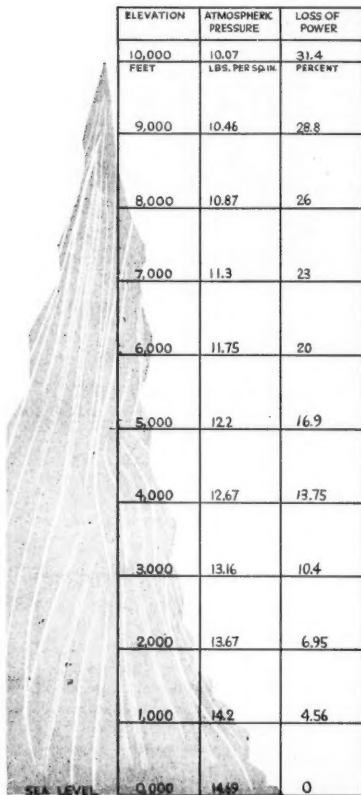
sometimes shift in the molds prior to casting.

If the head is too thin to cut, secure a duplicate head which has enough metal in the deck to provide the necessary strength after cutting. The work can be done on either a milling machine, shaper,

or planer. It should be large enough to cut the entire surface without changing the set-up of the head. The head must be carefully leveled, and bolted down without distortion, which is no job for a cub machinist.

Ford, Chevrolet, and Dodge are using their passenger car engines with only slight modifications in their trucks. Ford and Dodge both have larger truck engines of the same basic designs as their passenger car engines, which go into their heavier trucks. These engines already have rather high compression ratios, and of course in truck service they are working a great deal harder than in the corresponding passenger cars. Opinion among the experts is somewhat divided on the advisability of raising the compression of these engines. In these cases we would suggest that the standard heads should be used with LP-Gas wherever possible, and that heads be cut only where the owner insists. One LP-Gas carburetor man of long experience recommends putting cold manifolds on all of these jobs, and leaving the compression ratio as it comes from the factory. The same general recommendation applies to the smaller International truck engines.

With large truck engines we have a different situation. They are built for greater horsepower and heavier work. A great many of them go into heavy operation in high mountain areas, where the operators have even more need for high horsepower than they have in lower altitudes. They have more grades to climb in the high altitude country, and of course engines lose



Loss of engine power due to increase in altitude.

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OPTIONAL EQUIPMENT INCLUDES:

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SM-2

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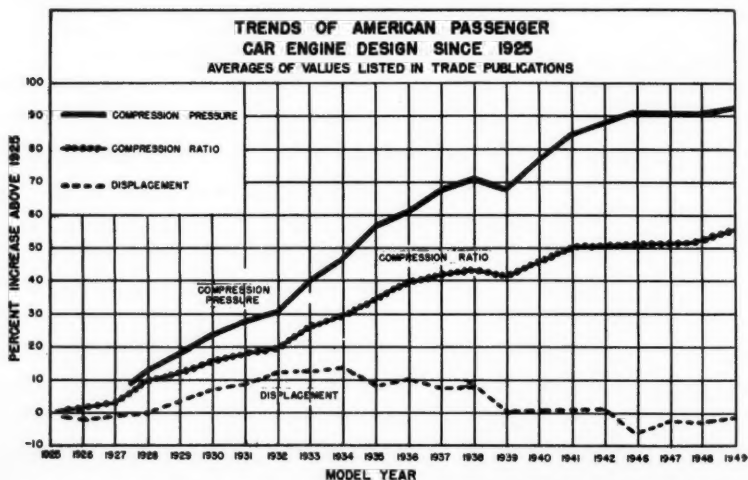


power as they go up in altitude. At Denver, which is exactly one mile above sea level, engines have 17% less power than they develop at sea level, because the air up there is thinner, and the engine takes in less oxygen per stroke and can therefore burn less fuel per stroke. Up at 10,000 feet elevation, the engine loses more than 30% of its sea-level power. To compensate for these power losses, nearly all manufacturers of large truck engines supply special "high altitude" pistons or heads. Because of the high factor of safety built into these engines, the highest available compression ratios will be satisfactory with LP-Gas even at the lower elevations. Since they give quite an improvement in miles per gallon, they should be included as part of the change-over in every heavy

duty engine conversion. Big trucks or buses running up to 100,000 miles per year consume tremendous quantities of fuel, and this saving really becomes important.

Conversion of tractors to LP-Gas offers a situation closely parallel to heavy duty trucks. Most manufacturers anticipate the demand for sea level power at high elevations, and can supply the needed equipment. The high compression heads or pistons, whichever may be required for that engine, are generally available through the local tractor dealers.

As a low cost alternative for high domed pistons, there are "inserts" available for John Deere and certain models of International and Allis-Chalmers tractors which raise the compression to a considerable degree. These consist of



metal rings fitting into the combustion chambers, which in these particular engines are in the engine cylinders.

The Minneapolis-Moline Co. offers a special LP-Gas tractor, their Model U, which is factory equipped with 6.8 to 1 pistons and Ensign carburetion. The same pistons fit in one of their standard gasoline engines, and could be used for conversions.

Whether you raise the compression or not, do a good job of taking the heat off the intake manifold. It is just as important in getting good power as the compression ratio. In fact, one prominent LP-Gas carburetor manufacturer states that if he were given his choice between an increase in compression and a large capacity, unheated gas manifold, he would take the manifold.

Engines with gasoline compression ratios will generally give close to the same power with LP-Gas as with gasoline—sometimes a little less, and once in a blue moon a little more. They will seldom give as many miles per gallon. It takes heat to produce power, and a gallon of gasoline contains approximately 25% more Btu's than a gallon of LP-Gas. To get comparable mileage, it is necessary to raise the compression ratio, and if the previous gasoline carburetion was exceptionally good, you may not be able to make up quite all of the difference. Fortunately, the cost per gallon of LP-Gas is lower.

A commercial operator making a change which costs perhaps \$200 or more is going to watch his operating costs with a critical eye. Any increased consumption of fuel must

be balanced against the difference in cost per gallon. Raising the compression gives not only more power, but also more miles per gallon. The owner and the driver will both like this. No driver ever had too much power in his truck or tractor, and no owner ever had a fuel bill that was too small.

3rd Eastern Service School Set For Bridgeport, Conn.

June 11-14 are the dates of the 3rd Eastern LP-Gas service school to be held at the University of Bridgeport, Bridgeport, Conn. The school is sponsored and conducted by the Liquefied Petroleum Gas Assn. and the University of Bridgeport.

A practical short course for servicemen, the school will cover industry background, customer relations, location of equipment, ventilating and venting, appliance servicing, competitive appliances, automatic controls, complaint analysis. A question-and-answer period will be held in each class and practical demonstrations will be a part of the curriculum.

According to C. J. McAllister, educational committee chairman of LPGA District 7, the course will supplement the previous Eastern schools and will combine factual instruction with visual aids. Although the school has been arranged for LP-Gas servicemen in the eastern sections of the United States and Canada, salesmen, managers, and all others engaged in the LP-Gas industry are urged to attend.

The charge for each student will be \$33.50, which will cover three nights' lodging, nine meals, linens, and registration fee for the course. In addition, each student will receive a bound copy of the proceedings as a reference book for later use.

LP-Gas—A Better Fuel for Power

QUITE suddenly the transit officials of America have awakened to the fact that there is a better fuel for powering their extensive motor bus systems than diesel and gasoline. It is LP-Gas!



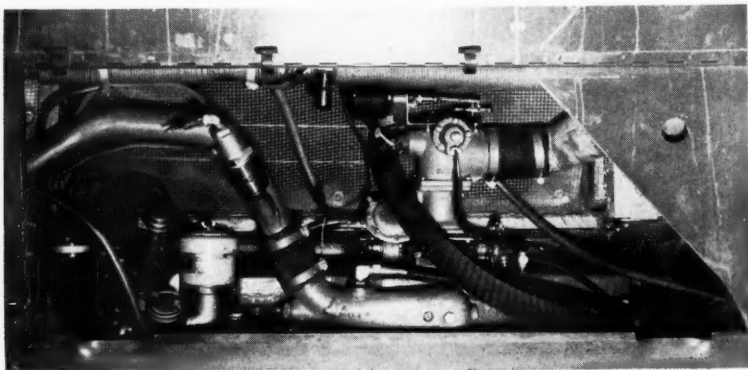
C. L. PARKHILL

But it took a meeting of the American Transit Assn. at Houston (March 14-17); a demonstration bus provided by the Twin Coach Co., Kent, Ohio; a fueling unit supplied by Parkhill-

Wade, Los Angeles; and an open forum for discussions of propane and butane to give the attending delegates the biggest impetus they have ever had to start a national investigation into this newer, more economical method of powering their mobile units.

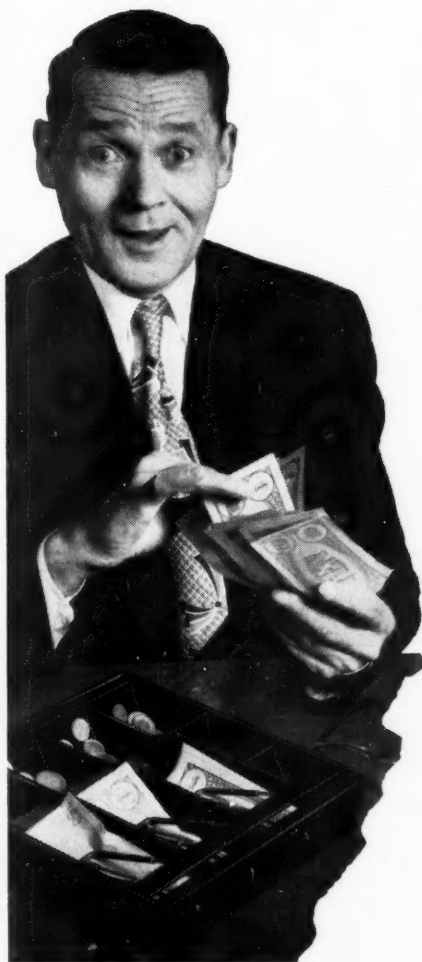
The currently low price of butane and propane, due to a huge surplus of fuel, offers startling savings in operation which, combined with lower maintenance costs and reduced oil consumption, puts LP-Gas in a class by itself as an automotive fuel. There follows here important information brought out at the Houston meeting:

There is currently in the Mid-



Ensign carburetor equipment intalled on a 477-cu. in. Fageol engine operating at 10 to 1 compression ratio.

So there's a different way to count profits?



Some say that profit depends on the number of dollars that flow into the till. But there's a surer way to count profits on LP-Gas heating equipment. It's simply knowing how many of those dollars *stay* in the till!

Take the dealer who sells Bryant automatic LP-Gas heating. He keeps more dollars because Bryant equipment requires fewer man-hours for installation, fewer service calls. He has no costly adaptations to make because he sells equipment designed specifically for efficient LP-Gas operation.

Again, he saves more because a share of his local advertising cost is paid under the Bryant co-operative plan. In addition, Bryant's powerful national advertising keeps sending prospects to him, making his selling expense lower.

No question about it, Bryant is the LP-Gas equipment line if you look carefully at the profit picture. For more details, write Bryant Heater, Dept. 204, 17825 St. Clair, Cleveland, Ohio.



The most complete line
of gas heating equipment in the nation



Road fueling the bus with metered propane at Houston and Omaha.

Continent, and to a lesser degree in California, a very large over-supply of liquefied petroleum gas, particularly propane. It follows that under this economic condition of over-supply, a large non-fluctuating demand may expect a preferred price over a considerable period of contract life.

Propane, among the liquefied petroleum gas products, is a superior motor fuel from the fact that its anti-knock rating is 125 (U. S. Bureau of Mines). Combining a fuel having this anti-knock characteristic with an engine designed to operate at 10:1 compression ratio, we can expect the following results:

1. Materially increased horsepower in terms of normal gasoline.

2. No pre-ignition knock.
3. Total absence of carbon in the combustion chamber.
4. No dilution of crankcase oil.
5. Materially decreased engine maintenance costs due to these factors.
- 6 No smoke and practically no odor.

L. J. Fageol, president of Twin Coach Co., told the 200 bus company representatives at the Houston meeting, of his development work over the past three or four years, looking toward a four stroke cycle engine having characteristics of lightweight and great strength. This design was predicated on an ultimate development of one horsepower per cubic inch of displacement. Such results could only be attained by high compression ratios. The present Fageol engine,

following this reasoning, is designed for frame and bearing stresses at 14:1, which predicates almost perfect results at 10:1 compression ratios.

There are, Mr. Fageol stated, between four and five thousand of these engines in service on Twin Coach buses in the United States which have had varying periods of life up to two years, operating at 7.3:1 compression ratio. The mechanical results have fully justified the original mechanical design. On propane, and at 10:1 ratio, this engine actually "out-diesels the diesels." As a matter of further interest, the inherent stability of this engine design has been thoroughly tested the last two years at Indianapolis, and also under motor boat racing conditions with very satisfactory results.

C. L. Parkhill, of Parkhill-Wade, consulting engineers of Los Angeles, described to the group the production of liquefied petroleum gases, beginning at the source in the oil well and carrying them through the absorption and recycling plants and the fractionators to their ultimate storage for use as butanes or propane. These

The Rapid City Traction Co. of Rapid City, S. D., owned by Doc Hyde, has been using this propane-fueled bus since 1947.

products are also produced by the refineries in various parts of the country in various quantities and proportions. It was brought out that the potential in the United States projected over the next five years for liquefied petroleum gases was of the order of 15 billion gallons per year. According to the U. S. Bureau of Mines, total sales of these products in the United States amounted to 2¾ billion gallons in 1949, which certainly predicates safety in placing long term contracts.

From the standpoint of safety, Mr. Parkhill described many pieces of modern liquefied petroleum gas equipment, beginning at the point of production through transportation and utilization equipment. The point was made that with clarification of code requirements and enforcement of their provisions, design had improved vastly over the past 10 or 12 years of experience with liquefied petroleum gases. Unequivocally, with properly designed equipment and intelligent operation, propane is actually safer than its heavier brothers—gasoline or diesel.

Fires will inevitably occur at any point where flammable materials are handled or stored. This applies equally well to natural or manufactured gas, gasoline, coal or wood dust, diesel or heavy oils, or a multitude of other flammable materials. It follows then that the problem of management in the handling of any of these flammables is one of building proper bridges before weight is put upon them. It then becomes logical that in the





Carl O. Swanson, owner of Swanson Bus Lines, has been operating this bus since 1947 in interurban service running out of Aberdeen, S. D.

handling of large volumes of any of the petroleum liquids that proper design and safety precaution should and must be used.

The floor was open for questions by the audience, directed to various representatives of the oil companies, equipment companies and to Mr. Fageol and Mr. Parkhill. The questions covered a wide variety of subjects which were answered by the various people who were best qualified to answer them.

The group was invited to personally inspect a Twin Coach demonstrator bus and its fueling convoy which were available for the afternoon. The bus, a Twin Coach 44-S, was equipped with propane tankage, carburetion, etc., at Kent, Ohio, and driven direct to Houston—some 1400 miles. Coming in 1500 miles from Los Angeles was Parkhill-Wade's 1500-gallon, twin propane, fueling unit equipped with propane carburetion, pumps, meters, hose reels and complete safety equipment. The operation of both pieces of equipment illustrated very thoroughly to the bus people the inherently smooth operating characteristics of a high compress-

sion engine on propane. The fueling operation is simple and entirely automatic. The very simplicity and safety of the fueling contact between the convoy and the bus brought out many comments from both the bus people and the fire and regulatory representatives present.

At a subsequent regional meeting of the American Transit Assn. held at Omaha on April 7-10, a very similar program was worked out before some 200 or more representatives from even more widely spread points than the Houston meeting. The chairman of the meeting on the 10th announced that the time would be completely devoted to questions from the floor and answers from a pre-selected panel of eight men representing the producers, equipment and bus manufacturers. Interest was so great that the session lasted from 9:30 until 2.

Many Buses Will Change Over

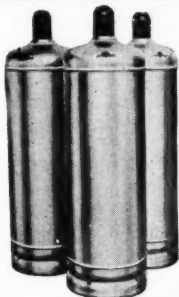
All indications point to conversion of buses in a number of Mid-Continent states, preliminary tests already being under way in several places. In California, Asbury Rapid Transit System has ordered six new Twin Coaches equipped with Fageol engines and it is anticipated that they will convert the balance of their fleet, totalling about 80. The Wichita (Kans.) Transportation company purchased three propane Twin buses; and at least 20 transit companies across the country are seriously considering changing over their fleets to burn LP-Gas.

MASTER TANK

DELIVERS PROMPTLY

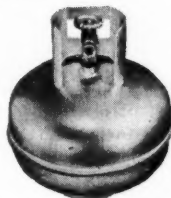
100# I.C.C. CYLINDERS

Tare Wt. 132 lbs.
Diameter — 14 $\frac{1}{2}$ "
Height — 45 $\frac{1}{2}$ "



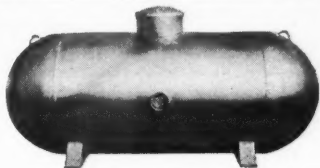
Continual improvement in both product design and production facilities enables Master Tank to maintain their leadership in both quality and ability to deliver your requirements from 20-lb. Cylinders to 30,000-gallon Bulk Storage Plants.

All Master Equipment is built in strict compliance with I.C.C., API-ASME and ASME codes — automatically welded, x-ray controlled, hydrostatically and air tested, and fully inspected by a recognized agency during fabrication.



20# I.C.C. CYLINDERS

Tare Wt. 39 lbs.
Diameter — 14 $\frac{1}{2}$ "
Height — 11 $\frac{1}{4}$ "



DOMESTIC SYSTEMS

Butane Systems — U-69 construction — 101 lbs. working pressure — above or underground.

Propane Systems — U-69 construction — 200 lbs. working pressure — above or underground.

Capacity	Butane	Propane
150 gal.	24" x 6'11"	24" x 6'11"
250 gal.	30" x 7' 7"	30" x 7' 7"
288 gal.	None	24" x 13' 1"
363 gal.	36" x 7' 3"	36" x 7' 3"
500 gal.	36" x 10' 2"	41" x 8' 8"
1000 gal.	42" x 14'10"	46" x 12' 6"

200# CAPACITY PROPANE CYLINDERS

200# W.P.
U-69 A.S.M.E.
57 Water Gallon
Capacity



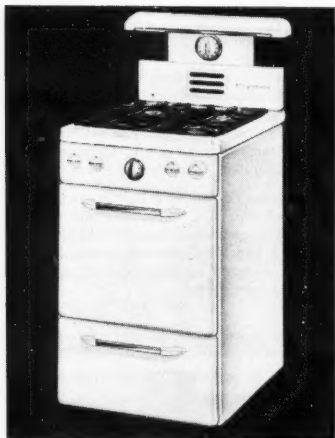
Send for new
50 page catalog.
Prices, specifications,
and pictures of
plant operations.



1612 Singleton Blvd.

Dallas, Texas

PRODUCTS



Apartment-Size Range

Perfection Stove Co., 7609 Platt Ave., Cleveland 4, Ohio.

Model: 920 Perfection.

Application: Designed for apartments and small homes.

Description: This model has a super-center cooking top, giving it ample room to accommodate large utensils. It features one giant and three standard size "Lincoln" non-clog burners. Other top-of-the-stove features include an automatic top burner lighter and a deep, easy-to-clean burner tray.

The broiler is of the roller drawer type with porcelain-enameled pan and special smokeless grid. The 16-in. oven is fully insulated and has non-

tip oven racks with automatic oven heat control. Front, sides, and top of the range are finished in white titanium porcelain enamel.

Hydraulic Tailgate

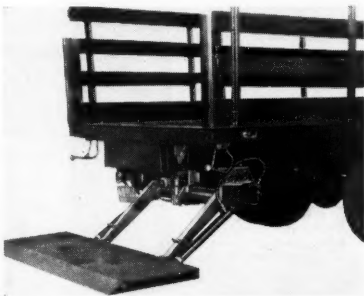
Marion Metal Products Co., Marion, Ohio.

Model: Marion Hydrogate.

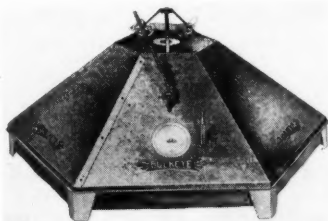
Application: Designed to be installed at the rear of delivery trucks, the hydraulic tailgate saves time and labor in loading and unloading merchandise.

Description: The tailgate is operated by a single lever, lifting, closing, and lowering hydraulically. It lowers within a few inches of the ground and stops and holds at any height desired, as well as locking at truck-bed level. This safety feature prevents the tailgate "freight elevator" from dropping accidentally.

The Hydrogate, guaranteed to lift 2000 lbs., features non-skid platform



which prevents merchandise from skidding or slipping, and construction which provides even distribution of weight, preventing frame distortion or twisting regardless of where the load is placed. The self-contained hydraulic unit fits all new and old model trucks and does not add excessive weight.



Gas Brooder

Buckeye Incubator Co., P. O. Box 420, Springfield 99, Ohio.

Model: No. X-172-P.

Application: Chick brooder for use with LP-Gas.

Description: Made of heavy gauge galvanized steel, the brooder has six non-adjustable legs reinforced with heavy gauge steel gussets to prevent bending and distortion when brooder is turned up on side. Adjustment is accomplished by use of 20-ft. rope and two pulleys which are furnished with brooder to give any desired height.

Ceiling is completely insulated with $\frac{1}{2}$ -in. asbestos base compound, which retains heat under canopy where it is needed, with ultimate saving of gas. The center vent removes excess moisture.

Three baffle plates and the metal deflector extract every unit of heat value from gas consumed and dis-

tribute heat evenly and efficiently. A two-piece gas burner was designed especially for the brooder. Robertshaw pilot thermostat control assures definite flow of gas to maintain any desired temperature.

Bulk Station Pump

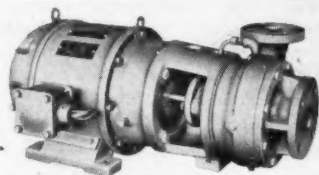
Byron Jackson Co., Pump Div., Box 2017, Los Angeles 54, Calif.

Model: BJ Type TLB Bulk Station Pump.

Application: For handling butane and other liquid fuels and lubricating oils.

Description: The pump, specifically designed for bulk plant operation, utilizes the manufacturer's mechanical seal which effectively limits the hazard of leakage during operation.

The unit is a single-stage, single-suction pump, close-coupled to an explosion-proof motor. It has capacities to 600 gpm; discharge pressure to 75 psi; and temperature range to 150°F.

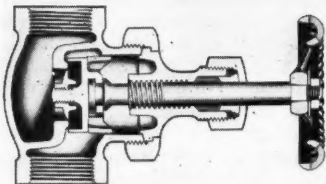


LP-Gas Valves

Crane Co., 836 S. Michigan Ave., Chicago 5.

Application: For use with LP-Gas up to a maximum pressure of 250 psi.

Description: This new line of globe, angle, and check valves has been tested and approved by the Under-



writers' Laboratories. All three types have screwed ends and are available in sizes from $\frac{1}{4}$ in. through 2 in.

To assure tight seating, the valves have a Crane No. 6 composition disc which is cemented into the disc holder. Tightness at the stuffing box is provided by one-piece molded asbestos packing in a stuffing box of liberal dimensions.

Internal Pipe Wrench

Roddick Tool Co., Costa Mesa, Calif.
Model: Roddick Wrench.

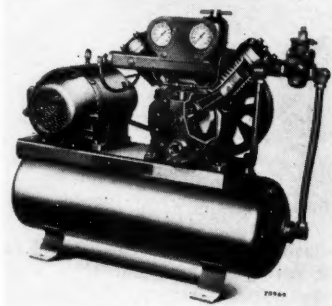
Application: For use by maintenance men, plumbers, pipe fitters, etc., to tighten or remove close nipples or other pipe and fittings. Especially valuable in removing broken fittings.

Description: The wrench works without damage to threads or pipe walls. "Cam" action provides non-slipping grip on inside of pipe, fit-



tings, or tubing when turned in either direction. Inserted into the pipe and turned, the knurled eccentric grips the inside wall of pipe and provides positive grip without damage to outside finish of chrome plated or brass fittings.

Pipe sizes run from $\frac{1}{4}$ in. through 4 in. for standard, extra heavy, and double extra heavy pipes. A kit with four Roddick wrenches in leatherette case is also available.



Compressor

Ingersoll-Rand Co., 11 Broadway, New York.

Model: LPG Compressor.

Application: For transfer of butane and propane from tank car to storage.

Description: The Ingersoll-Rand compressor recovers nearly all gas remaining in tank car after the removal of the liquid by two distinct operational phases. (1) The liquid transfer phase draws gas from storage tank and delivers it under pressure to tank car, thus forcing liquid in the car through a pipe directly to storage tank. Pipe valves are opened

and the 4-way valve at the compressor is set in proper position and the compressor is started.

After liquid has been transferred the tank car is left filled with gas. Gas recovery (2) phase consists of closing the pipe valves and reversing the 4-way valve at the compressor. By so doing, gas is then drawn from the tank car and returned to the storage tank under sufficient pressure to liquefy.

The 5-hp. compressor operates at 720 rpm and has a piston displacement of 11.6 cu. ft.

Floor Furnace Catalog

The Ward Heater Co., of Los Angeles, announces the release of a new sales manual for its line of gas floor furnaces. The manual, which is completely new, can be used both for a catalog and sales information.

R. O. Montrief, vice president and sales manager of the firm, states that the new manual introduces latest changes in the line in both Ward stainless steel models and standard models.

Copies of the new manual will be sent to any interested member of the gas industry. Inquiries should be mailed to Ward Heater Co., 1800 W. Washington Blvd., Los Angeles 7.

Cylinder Folder

A four-page, three-color folder has been released by Harrisburg Steel Corp. describing its "Lite-Weight" propane cylinders.

Illustrated are ICC 4BA-240 cylinders of 100-lbs. capacity and 72-lbs. tare weight, now available in a choice of aluminum or red oxide ground coats, with or without caps and valves inserted, and with customer's regis-

tered mark and serial numbers at no extra charge.

Also illustrated are the four principal manufacturing operations on the cylinders: automatic welding with submerged arc; cold drawing heads in mechanical press; annealing furnace operation; and valving and loading cylinders into cars via a new bracing and blocking technique which gets 500 to 550 cylinders into a single freight car.

This bulletin, No. 466, is available upon request to Harrisburg Steel Corp., Harrisburg 31, Pa.

Industrial Advertisers Meet June 29-July 1 in Los Angeles

Plans for the annual conference of the National Industrial Advertisers Association, scheduled for Los Angeles June 29-July 1, indicate it will be one of the most outstanding meetings the organization has ever held.

Business meetings, presentation of annual awards and a glamorous social program are other features of the three-day event that will draw more than a thousand industrial advertising men to the West Coast's first national industrial advertising meeting.

Paul G. Hoffman, ECA Administrator, heads the list of industry leaders who will speak before the NIAA group. Mr. Hoffman will be featured speaker at the luncheon on Saturday, July 1. Reese Taylor, president, Union Oil Co., will speak on "Capital and the Welfare State."

Harvey Connover, president, Connover-Mast Publishing Co., will discuss the future of industrial advertising.

"The Economic Outlook" will be the theme for a discussion among representatives of six of the nation's business paper organizations.

Bus System in Los Angeles Orders First Propane Units

Asbury Rapid Transit system—a fleet of buses that services intercity commuters in Los Angeles, Hollywood, Glendale, and Pasadena, Calif.—placed an order last month with Twin Coach Co. (Kent, Ohio) for six brand new, propane-fueled buses, with which Asbury will start replacements of its entire fleet of gasoline-fired vehicles.

The move, prompted by the definite savings possible to the company with the use of propane, greater efficiency potential, and elimination of a Los Angeles County headache—the fact that most buses in the area, using gasoline, contribute in marked degree to the fumes that form the much-celebrated “smog” in the atmosphere—is one of several contracts Twin Coach says it has for metropolitan bus systems that will switch to propane.

A. J. Eyraud, Asbury vice president, looks beyond the savings involved to

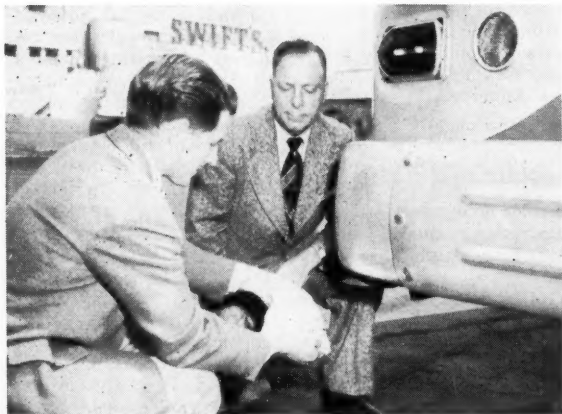
point out the improvement the buses will show in the matter of air pollution, a subject of serious attention in smog-conscious Los Angeles. Exhaust from the propane-powered vehicles failed to color a white handkerchief held near the pipe by W. H. Parmelee, county air pollution control board inspector—and no odor was discernible.

The new buses cost about \$21,000 each—but conventional gasoline-fired buses can be converted at nominal expense, according to L. J. Fageol, Twin Coach president.

Sinclair Oil Purchases Half Interest of Lisbon Gas

The purchase of a one-half interest in the physical assets of the former Lisbon Gasoline Co., Inc., has been announced by Sinclair Oil & Gas Co., Tulsa.

The transaction includes two natural gasoline extraction plants, with field gathering and residue systems. More than 1400 wells with a produc-



W. H. Parmelee, Los Angeles (Calif.) County Air Pollution Control Board inspector, holds handkerchief under exhaust of new type bus as R. C. Cale, Asbury Rapid Transit System's assistant manager, looks on. Propane fuel is used in this new style vehicle, six of which have been ordered by Asbury of Los Angeles.

Famous for carefree cooking!

O'KEEFE & MERRITT

Gas Ranges

ARE SO EASY TO SELL!

For many reasons—it's to your profit to investigate O'Keefe & Merritt's sparkling new line of finer gas ranges. But, in the final sales picture, the most important reason can be summed up in the one word—Preference! Preference—the fact that women are quick to recognize and appreciate O'Keefe & Merritt's many famous, widely advertised, exclusive features—its thoughtful, worksaving design ... that makes cooking so easy!

GRILLEVATOR BROILER

Fast, visible, fingertip adjustment to 5 levels makes broiling a joy. Grill—so fast with the new Speedray Element!



VANISHING SHELF-COVER

Handy and step-saving when up ... a beautiful cover for range top when down.



KOOL-KONTROL PANEL

Keeps burner knobs always cool ... prevents discoloration.



Write today for complete details. More than twenty sparkling models are now ready for your display windows and showroom. Put them to work for you ... and watch them sell themselves!

O'Keefe & Merritt Co.

3700 East Olympic Boulevard
Los Angeles 23 • California

tion of approximately 10,000,000 cu. ft. of casinghead gas supply these plants, which have a productive capacity of about 60,000 gals. of natural gasoline and butane and 40,000 gals. of propane daily.

At the expiration of the present existing gasoline sales contracts, the products from this project will be available to Sinclair. Arkansas Fuel Oil Co. owns the remaining half interest.

G. W. Requa Elected Executive Secretary of California Group

At the May 12 meeting of the board of directors of the Liquid Gas Dealers Assn. of California, preceding the

annual convention, May 12-13, George W. Requa was elected to serve that group as permanent secretary. He assumed his new duties June 1.



GEORGE REQUA

Mr. Requa, a native of California, is well-qualified to fill the position, having been concerned with safety, insurance, and regulatory committee work in the LP-Gas industry. His activities have included serving as committeeman on safety and insurance committees of the LPGA; working with the state fire marshal's office on proposed safety regulations; committee member of LPGA-sponsored group to change state motor fuel tax collections; and has taken part in hearings on the proposed regulations of the division of weights and measures of the state of California.

His actual working experience in the industry includes operation as a dealer for the last nine years which covered supervision of deliveries—from household cylinders to transport operations; servicing of equipment and appliances; dispatching automotive equipment; installation and maintenance of carburetion equipment on internal combustion engines.

One of Mr. Requa's first duties as secretary will be to attend the annual convention and trade show of the Texas Butane Dealers Assn., June 22-24, in Fort Worth to acquaint himself with the successful operation of a state industry association.

Fuelane Dealer Convention Hears Sales and Service Talks

"Full Speed Ahead" was the theme of a series of five "Happy Cooking Metered Gas Service" dealer conven-

tions sponsored by Fuelane Corp., Liberty, N. Y., during the month of March. Over 600 representatives of the dealer organization attended meetings in Liberty; York, Pa.; Glens Falls, N. Y.; Syracuse, N. Y., and Augusta, Maine.



ROY JOHNSON

The stage was converted into a ship, the "S. S. Happy Cooking." Speaker spoke from the pilot wheel and wore Navy caps. The nautical theme was carried throughout the entire convention and depicted the arrival of the "S. S. Happy Cooking" with a cargo of new appliances for 1950 along with promotional plans and ideas.

Roy R. Johnson, Fuelane vice presi-

dent in charge of sales, emphasized the need of a planned selling and service program and introduced each of the speakers.

Charles M. Francisco, president of Fuelane Corp., was captain of the ship. He pointed out the necessity and benefits of tying in with the Happy Cooking Metered Gas Service program for 1950.

Harold J. Batsch, advertising manager, chose as his topic "What Makes Advertising Tick?" He also discussed the new Happy Cooking catalog and outlined the spring advertising program.

Clyde A. Street, in charge of Fuelane's 15 bulk plants, spoke on the importance of well stocked bulk plants.

Burt Prettyman, manager of sales and service, discussed the advantages of the live gas flame for cooking and presented the 1950 line of Happy Cooking gas appliances. Other speakers included Willard Colvin, Charles Richardson and Robert MacIntosh of George D. Roper Corp., H. J. Hughes, Tappan Stove Co., and G. M. Rohde, Jr. of Hardwick Stove Co.

On the two days following the general conventions a sales training school was conducted by Roy R. Johnson and Burt Prettyman.

Service School Committee Meets With U. of Kansas

A committee, headed by Rex Wheeler, LaCrosse, Kan., met in Kansas City May 20 to complete final plans for the Mid-Continent service school to be held at the University of Kansas, Lawrence.

July 23-26 are the dates of the school. Registration is under the direction of E. A. McFarland, manager of the university's Lawrence extension center.



Hotel Hollenden, Cleveland, where the National Butane-Propane Assn. will hold its annual convention, Sept. 18-19.

NBPA Convention

A conducted tour through the testing laboratories of the American Gas Assn. will be one of the highlights of the 1950 annual convention of the National Butane-Propane Assn., Sept. 18-19. The tour has been arranged to start from the Hollenden hotel, Cleveland—headquarters for the convention. Chartered buses will take convention delegates to the AGA Laborato-



FORREST FRAM

ries. Its functions will be explained by Edwin L. Hall, director.

Another highlight will be presentation of a lecture and demonstration on the development of static electric-

ity in loading and unloading operations. This will be handled by G. M. Kintz and H. F. Browne of the Dallas, Texas, office of United States Bureau of Mines.

According to President Forrest Fram, other speakers and events are being scheduled by J. M. F. Hays, convention committee chairman, and committee members John M. Robinson and R. E. Doyle. Convention theme is "Advertising-Merchandising-Management" and the speakers will be men well qualified to discuss these subjects.

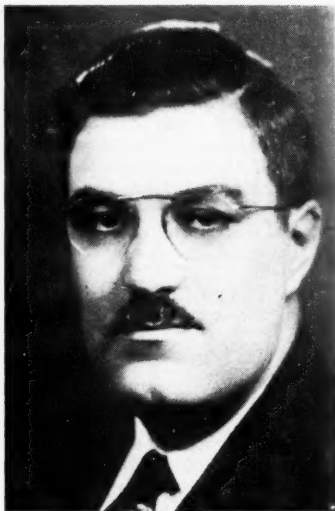
NBPA directors will meet next July 12-13 at Rhinelander, Wis.

Dr. Donald L. Katz Given Hanlon Award

The Hanlon Award, highest honor in the natural gasoline industry and one of the ranking awards of the entire petroleum industry, was conferred April 25 on Dr. Donald L. Katz, professor of chemical engineering, University of Michigan, Ann Arbor. The ceremony took place at the 29th annual convention of the Natural Gasoline Assn. of America in the Texas hotel, Fort Worth. (Convention story next month.)

Dr. Katz is the fourteenth recipient of the Hanlon Award which is conferred each year by the NGAA for outstanding service to the natural gasoline and cycling industries. Donor of the award is E. I. Hanlon, chairman of the board of the National Bank of Tulsa, Tulsa, Okla., and a pioneer in the natural gasoline business.

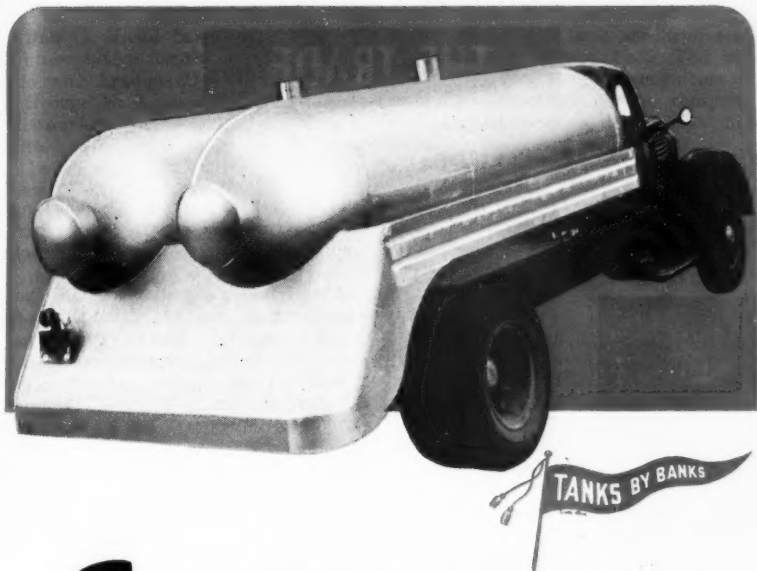
The presentation was made by NGAA president James E. Pew, Sun Oil Co., Philadelphia. The citation



Dr. Donald L. Katz

read in part: "Over a period of years Dr. Katz has been a tireless researcher on phase behavior of hydrocarbons and his reports on this subject have been of great assistance in the understanding of separation processes and reservoir behavior. His publications on critical phenomena and retrograde condensation helped to clarify a complex subject for industry.

"As a research engineer, teacher and writer, he has made outstanding contributions to the scientific knowledge of the oil industry and his basic information on hydrocarbons has guided engineers in the design and operation of plants, not only because of its reliability but because it was always presented in a manner which was readily understood and immediately useable by the practicing engineers who needed it most."



Economy ON WHEELS

Made in many sizes and types, Economy Truck Tanks combine modern design with maximum utility. Each and every one manufactured in strict accordance with the A.S.M.E. Code . . . built to customers' specifications.

Write for information and prices.

DALLAS TANK COMPANY, INC.

201-3 W. Commerce Street • P. O. Box 5387
DALLAS, TEXAS

THE TRADE

Jerry French, well-known publicity and public relations director of The Bastian-Blessing Co., Chicago, died of a heart attack April 22.



JERRY FRENCH

Mr. French, a native of Indianapolis, Ind., joined Bastian-Blessing seven years ago, before which time he had been editor and publisher of the "Merchandise Mart Review." Before being appointed to the position he held at the time of his death, Mr. French worked in the production department. His cartoon strip, "Little Elpee," is familiar to many in the LP-Gas industry.

Jerry French was active in the Liquefied Petroleum Gas Assn., serving on the publicity and advertising committee and taking an important part in the work of the copy committee of the national committee for LP-Gas promotion.

Anco Manufacturing & Supply Co., distributors and manufacturers of LP-Gas equipment, recently moved its headquarters offices from the Atlas Life Bldg. to new quarters at 217 East Archer, Tulsa, where it has combined office and warehouse space.

The move was made to expedite shipping and office facilities and to

provide 24 hour service. Also docking facilities are now maintained for carload shipments by both rail and truck lines.

Anco handles a full line of LP-Gas equipment and manufactures the 114-water gallon Anco Pacific "Pig." Supply stores and warehouses are maintained in Omaha, Neb.; Aberdeen, S. D.; East St. Louis, Ill., and Atlanta, Ga. Other offices are in Minneapolis, Chicago and New York. Paul R. Smith is president of the company; W. M. Wattman is executive vice president and George Ingle, secretary-treasurer.



GEO. H. NICHOLS

George H. Nichols has been appointed sales manager of Southwest district, LP - Gas products, **A. O. Smith Corp.**, with headquarters in Houston, succeeding Jack E. Blanco who has resigned to become president of the **Reliance Gas Corp.**, Athens, Texas. Mr. Nichols has been associated with A. O. Smith since the fall of 1948 in the capacity of sales manager of the electric motors division of the Southwest district.

Following his appointment, Mr. Nichols announced the following sales divisional setup and representatives:

Ben C. Heald has been appointed representative for the state of Colorado with headquarters in Denver.

George N. Adams for the Kansas-Missouri-northern Oklahoma area, with headquarters in central Kansas.

Ted Pitzer has been named for New Mexico and west Texas, headquartered in Midland, Texas.

Frank Row is representative for north Texas and southern Oklahoma with headquarters in Dallas.

Grant J. Annable will cover Arkansas, Mississippi, and Louisiana and make his headquarters in Mississippi.

D. H. Rude, with headquarters in Houston, will cover south Texas.

M. F. Piersol has been appointed Philadelphia district manager of the John Wood Co., Conshohocken, according to a recent announcement by William T. Briggs, Eastern division sales manager of the firm.

Mr. Piersol has served with the company, makers of Merion and Penfield automatic gas water heaters and

many other steel tank products, continuously since July, 1923. The appointment was made in recognition of outstanding service to the company and its customers in the Philadelphia area.



EDWARD E. LEE

Edward E. Lee, vice president and general manager, announces the appointment of Richard Kiel as eastern representative of Steel Cooperaage Co. division of Industrial Stamping and Manufacturing Co.

Mr. Kiel is widely known throughout the LP-Gas industry, having served the propane market in the East for approximately 12 years. His present address is 11 Wall St., Wellesley, Mass.

Hardwick gas ranges are shown here being loaded for an express flight to South America. Shipped from Hardwick Stove Co., Cleveland, Tenn., this consignment of 200 stoves was delivered to Compania Colombiana de Gas, S. A., Bogota, Colombia.





No. 36—
Standard
Model Gas
Range

Lawson
GAS RANGES and
SPACE HEATERS



Unvented Cone
Circulator



Vented
Radiant Heater

Lawson Leads the Parade with the Line you can really merchandise.

These beautifully styled and distinctively designed Lawson Products will meet with the instant approval of every economically minded customer who desires the ultimate in fine performance and dependability.

Gas Ranges are white enamel with chrome trim. Large insulated oven with non-tilt racks and Robertshaw Control. Complete heat range from low to high. Ball bearing broiler drawers with drop front and removable broiler pan with grill.

Vented and Unvented Heater in beautiful walnut two-tone porcelain. Healthful radiant and circulating heat, odorless combustion with Lawson cast-iron burner.

Fireplace Heaters available in two styles. Lawson V-Ray Radiant is an andiron design sturdily built, combustion engineered. Finished in burnished antique brass. Fireplace panel inserts for enclosing entire opening, beautifully styled in polished brass.

Write for complete literature

United States Stove Co.

SOUTH
PITTSBURG



TENNESSEE
U. S. A.



O. L. WILLIAMS

A revised edition of the booklet "Proper Handling of Butane and Propane in Railroad Tank Cars" has been released by the **Anchor Petroleum Co., W. A. Baden**, Anchor president, has announced.

This booklet was compiled by **O. L. Williams**, superintendent of equipment for Anchor. It is well illustrated and contains many helpful diagrammatic drawings of use to employees who handle LP-Gas products in railroad tank cars.

A limited number of these booklets are available to Anchor customers.

Incorporated in the booklet is a description of the MGM tank gauge (standard on tank cars handling LP-Gas products) and instructions on operation and maintenance of the gauge. A complete parts list for the gauge is included.

A new feature, not included in the first edition, is maintenance instructions for No. 124 MGM control valve; a full page illustration of connections for loading and unloading tank cars is also shown and safety precautions are emphasized throughout the booklet.

The retirement of **Wm. H. Merritt**, of Chicago, vice president of **Cities Service Oil Co. (Del.)** and manager of its marketing division, has been announced by **A. W. Ambrose**, company president.

Mr. Merritt's retirement comes after 48 years with Cities Service, 14 of which were spent in developing the company's marketing and sales organization.

Going Like Wildfire Prizes by the Hundreds!



ALL ABOARD

"COURT OF FLAME" Automatic Gas Water Heater SALES CAMPAIGN

March 1 to September 30, 1950

Get in! Get in! Here's a treasure trove of prizes. EVERY SALESMAN CAN WIN in the 1950 "Court of Flame" Sales Campaign. Thousands are winning EASILY—no competition, no special qualifications—every water heater sale counts for prize points. Get the big 32-page prize catalog—hundreds of nationally advertised merchandise prizes—shown in four-color reproduction. Copies are free to every salesman. SEND NAMES WITH HOME ADDRESSES.

This Campaign Conducted by the Water Heater Division of

Gas Appliance Manufacturers Association, inc.

60 East 42nd Street, New York 17, N. Y.

EVERY

SALESMAN

A PRIZE

WINNER



GET THIS BIG
CATALOG OF
VALUABLE PRIZES
TODAY - FREE



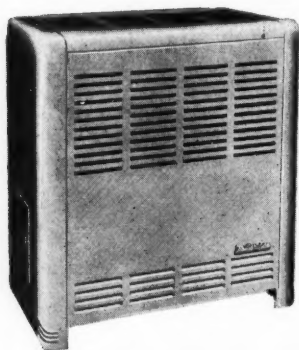
AND SPONSORED BY

ALLCRAFT MANUFACTURING COMPANY, Inc.
AMERICAN GAS MACHINE COMPANY
BASTIAN-MORLEY CO., Inc.
BRYANT HEATER DIVISION,
AFFILIATED GAS EQUIPMENT, Inc.
THE CLEVELAND HEATER COMPANY
THE COLEMAN COMPANY, Inc.
COMBUSTION ENGINEERING-SUPERHEATER, Inc.
CONTINENTAL WATER HEATER COMPANY
DAY AND NIGHT DIVISION,
AFFILIATED GAS EQUIPMENT, Inc.
FAUCONET HEATER COMPANY

GENERAL WATER HEATER CORPORATION
HANDLEY BROWN HEATER COMPANY
M. H. HEDGES MANUFACTURING COMPANY, Inc.
HOLLYWOOD WATER HEATER COMPANY
THE HOTSTREAM HEATER COMPANY
HOYT HEATER COMPANY
HOYT HEATER CO. OF NORTHERN CALIFORNIA
LAWSON MANUFACTURING COMPANY
LOVEKIN WATER HEATER COMPANY
MISSION APPLIANCE CORPORATION
MUSTER HEATER COMPANY
NATIONAL STEEL CONSTRUCTION CO. OF INDIANA

PENNSYLVANIA RANGE BOILER COMPANY
PERFECTION WATER HEATER COMPANY
PIONEER WATER HEATER CORPORATION
REPUBLIC HEATER CORPORATION
RHEEM MANUFACTURING COMPANY
RUDD MANUFACTURING COMPANY
and their West Coast affiliate H. B. Sanford Co.
SECURITY MANUFACTURING COMPANY
SERVIS, Inc.
A. O. SMITH CORPORATION
JOHN WOOD COMPANY

A 1950 LEADER



The BRILLIANT FIRE Lowboy CIRCULATOR

Fully enclosed and vented, this console model is a high efficiency Heatmaker. Delivers heat forward in living zone. No sweating. Baffled radiator, built-in draft diverter, Pilot and non-clog burner are features. Sturdy cabinet has baked finish, durable, washable. 4 sizes . . . 20,000 Btu up. Automatic controls optional.

Write for New Catalogue No. 50



The **OHIO FOUNDRY & MFG. CO.**
Engineers • Manufacturers • Designers
STUEBENVILLE • OHIO • U.S.A.

Fisher Governor Co., Marshalltown, Iowa, manufacturers of pressure and liquid level control equipment, is now manufacturing controllers and regulators in Great Britain. Address of the new office and plant is Fisher Governor Co., Ltd., Lewisham, London S.E. 13, England.

Equipment of Fisher Governor Co., Ltd., carries the Fisher trade-mark and is built to the same specifications and standards as that made in the U.S.A. Interchangeable parts are available from either the Marshalltown or London plant.

Products marketed by Fisher are being manufactured by Elliott Brothers (London) Ltd. Sales and service are available in all world markets from sales engineering organizations which handle both Fisher and Elliott products.



CHAS. McNAMAR

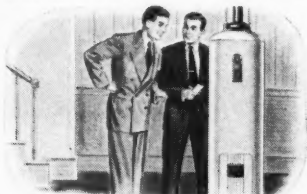
The Vulcan Steel Tank Corp., located at 3207 Dawson Road, in Tulsa, Okla., has recently been purchased by Chas. A. McNamar, Lawrence N. McKelvey and A. W. (Tony) Crowley, all well known in the steel and oil industry.

The Vulcan company, established 28 years ago in Tulsa, ranks among the older steel fabrication companies serving the oil industry.

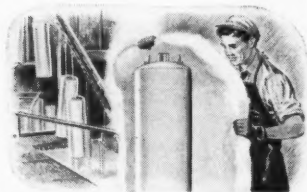
Vulcan will continue to design and build refinery, gasoline and chemical plant vessels in all sizes and weights, but in addition, they are expanding their facilities to serve the production, pipe line, chemical and marketing fields of the industry as well, and

Rely on Rheem, World's Largest Maker of Automatic Water Heaters

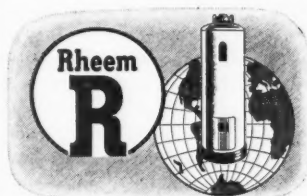
Want Sales Appeal? The handsome design of the new Rheem has as much sales appeal as a new refrigerator or automatic washer. And the nationally advertised Rheem name is an important selling asset for you. Customers have confidence in the Rheem brand.



Want Product Features? The patented* Rheem-Process tank guards against corrosion and leaks. It's the result of more than 20 years development. And Rheem has the magnesium rod—Fiberglass insulation—Grayson Unitrol—plus many other important features. *Pat. No. 2444533.



Want Top Guarantees? All Rheem models carry the Good Housekeeping Guaranty plus the liberal Rheem guarantee in writing. All gas models are approved by AGA, oil and electric by UL. The Rheem name offers the reliability and reputation of the world's largest maker.



Want Sales Help? Rheem gives you merchandising aids, fast factory shipment, technical service. You can choose from a complete line of products, automatic water heaters in all sizes for every type of fuel—a full line of warm air heating equipment—oil storage and septic tanks...

It's good business to rely on Rheem

RHEEM MANUFACTURING COMPANY

370 Lexington Avenue • New York 22, N. Y.

The line of *Least Resistance!*

PREMIER
Since
1912



The new, complete line of 38", 30" and 21" Premier Gas Ranges puts profit in your pocket. They're tops in popularity, too—with all the "most-wanted" customer-winning features. You'll profit with Premier. Feature the complete line—all A. G. A. approved.

**SEND FOR
COMPLETE CATALOG**

Premier
STOVE COMPANY

100 South Sixteenth Street Belleville, Illinois

expect soon to produce a number of new and improved products.

Mr. McNamar, the new president, moved to Tulsa in 1932 where, together with his father, they founded the present McNamar Boiler and Tank Co. However, he disposed of all his interests in that company in 1945.

He is also associated with the Allied Steel Products Corp., of Tulsa. In 1938 he established the plant at Salem, Ill., which is now known as McNamar and Crowley. Under the new Vulcan organization, Mr. McNamar will direct sales and developments of the new products.

Mr. McKelvey, the new executive vice president and general manager of Vulcan, came to Tulsa in 1917, started to work for the Pioneer Tank and Boiler Co., and in 1927 started in with the newly incorporated Vulcan Steel Tank Corp.

Mr. Crowley is now president of McNamar and Crowley, Inc., at Salem. As a new vice president of Vulcan he will direct the company's expanding sales organization in the Illinois Basin.

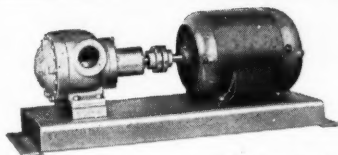
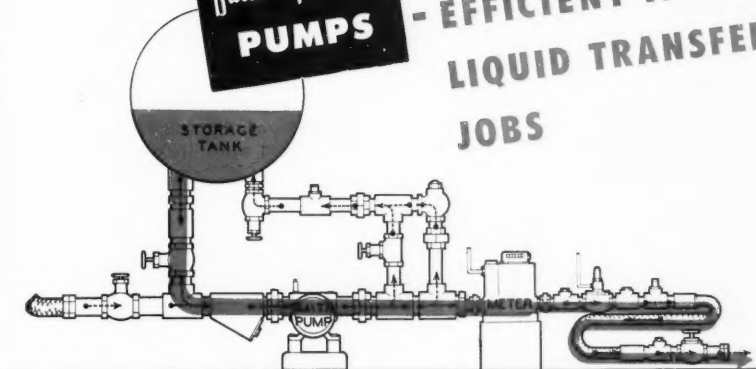
Announcement of the appointment of Gene D. Sickert as works manager of the Indianapolis plant of the Peerless Pump Division, Food Machinery and Chemical Corp., is made by G. F. Twist, general manager of the pump division.

Mr. Sickert comes to Peerless from the Bolens Product Division of Food Machinery and Chemical Corp. where he has held a similar position for the last four years.

Southeastern headquarters for Caloric Stove Corp. have been set up in Atlanta, Ga. Coincident with this move, L. H. Ernst, Southeastern sales manager for Caloric, has moved from

SMITH
PRECISION
Butane-Propane
PUMPS

**- EFFICIENT IN ALL
LIQUID TRANSFER
JOBS**



Solving your LPG pumping problem is our single objective. Among the 14 models of Smith pumps, you will find one with the highest operating efficiency in any range of the following services:

Units for direct connection to standard 1800 rpm explosion-proof motors — no outside belt, chain or gear drives • For truck-transport unloading • For loading delivery trucks • For fast filling of cylinders on a manifold • For filling fuel tanks of trucks and other motor vehicles • For filling single small tanks • For tank car unloading • For direct connection to truck power take-off drive at 500 to 900 rpm.



The drawing reproduced above details an actual installation where a Smith pump is used both for unloading transports into storage and for filling truck fuel tanks and other small tanks from storage through a liquid meter — a simple and very satisfactory layout. A Smith pump can do a similar job for you, and will give years of trouble-free service, when properly installed.

Blueprints of this installation, including list of materials and operating instructions, are available. Write also for new catalog sheets and price information.

SMITH
PRECISION PRODUCTS COMPANY

1135 MISSION STREET • SOUTH PASADENA • CALIFORNIA • PHONE PYRAMID 12293

JUNE — 1950

141

Liquefied Petroleum Gas

Cities Service Oil Co.

•

A DEPENDABLE SOURCE
UNIFORM PRODUCTS
A CAPABLE SUPPLIER
TWENTY YEARS' EXPERIENCE

•

IN LP GAS ALSO

CITIES SERVICE
MEANS
GOOD SERVICE

•

CITIES SERVICE OIL CO. (Del.)

•

BARTLESVILLE, OKLA.
CHICAGO, ILL.

Other Sales Offices

Cleveland
St. Paul

Kansas City
Toronto

Winston-Salem, N. C., to Atlanta. The office in Winston-Salem will be continued.

The company has a man covering each state in the Southeast, and also has warehouse facilities in each Southeastern state, a total of 14 warehouses. Up-to-date financing service is available.

In preparation for an expansion program of the company's manufacturing and sales operations, Dearborn

Stove Co., Chicago and Dallas, manufacturers of gas space heaters, evaporative coolers and window exhaust fans, recently named five men for new positions in the firm. Announcement of the changes was made by R. M. Liedstrand, president.



R. H. NORRIS

R. H. Norris has been designated as executive vice president and chief administrator of the company. He will direct the overall operations of the firm and will continue to make his headquarters in Dallas, where he has been since 1944 when he joined Dearborn.

C. D. Allison was named vice president and general manager of the Dearborn operations in Dallas. Formerly in the sales division of Westinghouse, Mr. Allison became associated with Dearborn in 1946.

Other appointments are: Erwin Klienman as sales manager of the Southern division, and I. G. Overcash as sales manager of the Northern division. Mr. Klienman will make his headquarters in Dallas, while Mr.



You can clean up 3 ways

in the big *"Clean Sweep"* contest



Dedicated to the American Way, the AGA-Servel "Big Six" Campaign honors the six vital partners in our American system—the manufacturer, the scientist, the worker, the businessman, the salesman, and the consumer. The American Way has always been the Best Way. Let's prove to the world that it's still the Best Way.

- 1. Pep up your company's sales**
- 2. Step up your gas load**
- 3. Share in the many awards—personal jewelry sets, cash, trophies—and Servel's Victory Vacation Trip**

The AGA-Servel "Big Six" Gas Refrigerator Sales Campaign is winging along at top speed. But it's still a wide-open contest . . . packed with opportunity for big winnings. The great AGA-Servel "Clean Sweep" Quarter, coming up July 1, will make an exciting home-stretch drive. It's this final push that will really pay off! And not only in a grander than ever array of cash prizes, trophies, merchandise awards, Victory Vacation Trips, etc . . . but in greater sales and a greater gas load.

So follow all the way through with every

Servel prospect in this concentrated hot-weather sales drive. Get behind your men with strong local advertising. It's a simple formula, but *how it works!* This greatest-to-date, prize-loaded contest is all set-up and waiting for you. Be sure your company is enrolled. Servel, Inc., Evansville 20, Ind.

Servel
The GAS Refrigerator

It's a SUCCESS



WELDIT DISPLAY UNIT IS A PROVEN PROFIT MAKER

Dealers are producing greater profits with the New Weldit Display Unit.

This attractive, multi-colored counter or wall display unit will increase your torch sales. Order yours today. Weldit Display Unit comes complete with the following Weldit Torches:

(1) C-48-P. Weldit Full Weldimatic Trigger Control Torch. (L-P gas and atmospheric air.) Adjustable pilot light, needle valve adjustment. For heating, soldering and yes, even chicken singeing.

(1) C-48-WP. Weldit Torch. Same as above, only non-automatic.

(1) No. 484 Large Burner L-P.

(1) C-48-B. Weldimatic Torch with No. 470 Burner. Uses propane gas and atmospheric air, provides flame 3" wide at 35 lbs. pressure for paint removal from wood or metal. A hot sales number.

(1) No. 4826-D. Safety Check Tank Connection. Shuts off gas flow if hose becomes ruptured or disconnected when tank is open. 12 ft. of hose included with unit.

Each of the above items can be replaced — just reorder by number on the torch.

Remember, all Weldit L-P Torches are designed to operate at full tank pressure adjusted at torch valve (no regulator is needed). Each Weldit Torch is equipped with a filter device that eliminates foreign matter.

Cash in on this plan. Order your self-merchandising display board unit today at this special price—

\$35.00, retails for \$60.00!

Weldit
INC
SINCE 1918

994 OAKMAN BLVD.

DETROIT 6, MICH.

Overcash will make Chicago his base of operations. Both new sales managers have been with Dearborn more than ten years. The overall sales organization will continue under the direction of C. N. Hinds, general sales manager. Ira G. Corn, Jr., is head of market research and export sales departments.



C. C. OWEN

The appointment of Charles C. Owen as manager of sales training for the "Janitrol" division of Surface Combustion Corp. is announced by W. J. Grover, marketing director.

As manager of sales training for the Janitrol division, Mr. Owen

will work extensively with dealer and Surface Combustion personnel to provide them with correct and broad training in the merchandising and engineering of the company's line of heating equipment.

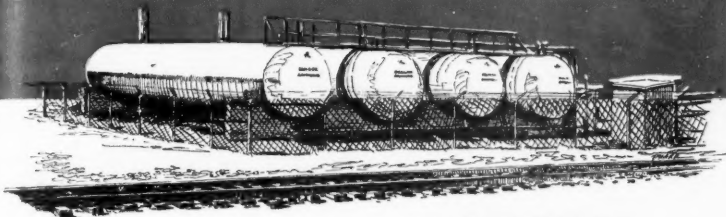
The appointment of S. F. Schultz as "Janitrol" sales engineer in the Michigan territory is also announced by H. C. Gurney, sales manager, Janitrol domestic - commercial division, Surface Combustion.

Mr. Schultz will work with Abner Baker, Surface Combustion district manager, in the distribution of the company's complete line of Janitrol equipment through the Michigan territory dealer organization.

Surface Combustion also announces the appointment of Norman L. Kledzik as sales engineer in the company's Indianapolis territory. Mr. Kledzik will work as an associate of R. A. Caylor, who is the district manager

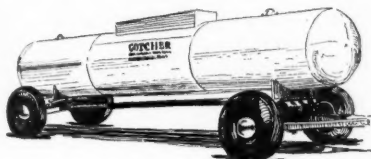
ANHYDROUS AMMONIA

THE NEW, LOW-COST NITROGEN FERTILIZER

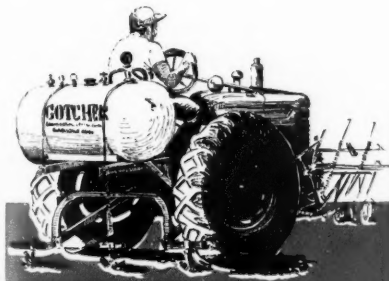


GOTCHER

The pioneer in the anhydrous ammonia program
OFFERS YOU ...



*Many progressive L.P.G. Dealers
have found the sale of ammonia
a profitable business. Ask us
about our dealer program.*



• Storage Plants

We design and erect complete, ready-for-service, farm and railside anhydrous ammonia storage of any capacity.

• Applying Equipment

Gotcher manufactures the sturdiest, simplest, and most practical equipment on the market for the application of anhydrous ammonia.

• Transporting Equipment

Gotcher truck and trailer units are ideal for the transportation of anhydrous ammonia in farm use or for dealer deliveries.

• Field Engineering Service

Our agricultural engineers can assist you in working out any of your local nitrogen application problems.



Gotcher
ENGINEERING & MANUFACTURING CO.

Designers and Manufacturers of
AGRICULTURAL EQUIPMENT

128 SUNFLOWER AVENUE • CLARKSDALE, MISSISSIPPI



"The **THRIFTY** buy in '50"

CHILL CHEST

OFFERS...

LARGER CAPACITY

in less space

LOWER PRICE

per cubic foot

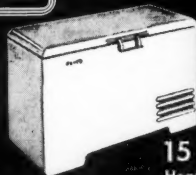
The 8, 15 and 23 cubic foot CHILL CHESTS . . . advanced in design and engineering features . . . give big food storage capacity. They are no larger outside than most 6, 12 and 20 cubic foot freezer cabinets. Priced to compete with these smaller sizes, CHILL CHEST gives you a distinct sales advantage — Lower Price per cubic foot!

Get the details NOW about the 1950 CHILL CHEST Program.

WIRE, PHONE OR WRITE

REVCO, INC.

DEERFIELD, MICH.



15 CU. FT.
Heavy Duty

of that territory, in the sale of the complete line of "Janitrol" products.

The location of the Surface Combustion Indianapolis district office is the American Bank Bldg., Sheridan, Ind.



CECIL DUNN

The election of Cecil M. Dunn as a director of Noma Electric Corp. has been announced by Henri Sadacca, president.

Mr. Dunn, vice president and general manager of the Estate Heatrola division of the corporation, has been as-

sociated with Estate for 20 years. Before appointment to his present post, he has advanced through the echelons of district manager, sales promotion manager, general sales manager, and director of sales and advertising.

J. W. Northeutt, district manager of the Atlanta territory for Rockwell Manufacturing Co., has announced the appointment of W. O. Brady to the company's sales force.

Mr. Brady will cover the state of Alabama and handle the meter, regulator and valve lines of the Pittsburgh Equitable Meter and Nordstrom Valve divisions of Rockwell.

C. Allan Fee has been elected secretary of the American Car and Foundry Co., succeeding Howard C. Wick who is retiring after 45 years of service, the last 34 as secretary.

It's new! **GARLAND** *the leader* **PRESENTS**

It's terrific the Sensational

"DINETTE"

in Beautiful
**BLACK
PORCELAIN
FINISH!**

*also in
stainless
steel*

*also with
high
shelf*



Model 38

**GARLAND, THE MERIT AWARD
WINNER, DOES IT AGAIN!**

See it! See the NEW DINETTE! See the handsome, easy-to-clean black porcelain finish! See the large broiler—the full size oven! See the value!

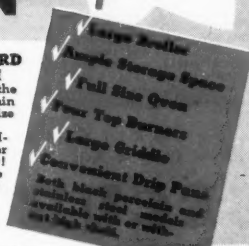
You'll say, too, that Garland's new DINETTE is the finest range of its type ever built—by far the most for your money! Again—as always—Garland gives more efficiency, appearance, value! That's why it pays to feature the leader!

All Garland units are available in Stainless Steel and equipped for use with manufactured, natural or L-P gases.



Model 38-1

*It's value
packed*



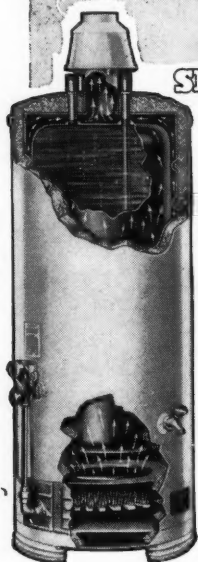
GARLAND * **THE TREND IS TO GAS**
FOR ALL
COMMERCIAL COOKING

Heavy Duty Ranges • Restaurant Ranges • Broilers • Deep Fat Fryers • Toasters
Roasting Ovens • Griddles • Counter Griddles

PRODUCTS OF DETROIT-MICHIGAN STOVE CO., DETROIT 31, MICHIGAN

*REG. U.S. PAT. OFF.

New...
INSIDE and OUT



•
**COMPLETELY
AUTOMATIC**
•
UNDERFIRED
•
**FIBERGLAS
INSULATED**
•
**ECONOMICAL
OPERATION**
•
LONG LIFE

Yes . . . and it's that Security Quality that has made so many water heater prospects SECURITY owners! Finest materials and skilled workmanship mean dependable performance. These big HEAVY DUTY heaters are smartly styled. And thousands of owners are amazed at their efficiency, economy and long life.

Built to burn ALL GASES. Now is the time to assure yourself a steady . . . and satisfied . . . flow of customers. Build your sales on SECURITY . . . and profit!

SECURITY MFG. CO.
1630-48 Oakland Ave., Kansas City 3, Mo.

SECURITY
HEAVY-DUTY
WATER
HEATERS



Two important additions to the executive organization of the American Radiator & Standard Sanitary Corp. are announced by Theodore E. Mueller, president.

Mark A. Brown, president of the Harris Trust and Savings Bank, Chicago, was elected to the board of directors of American-Standard to fill the vacancy caused by the death, on April 9, of Robert B. Dickson, president of the Kewanee Boiler Corp.

Clark T. Morse, president of the American Blower Corp., and a member of the American-Standard board of directors, was appointed to the executive committee, a post which Mr. Dickson also held.

Both the Kewanee Boiler Corporation and the American Blower Corporation are subsidiaries of American-Standard.

Frank S. Lodge has been appointed district sales supervisor in northern California, Utah and Nevada, by the Home Appliance Division of The Murray Corp. of America. The appointment was announced by H. C. Beresford, sales manager of the division.

Mr. Lodge was formerly with Roberts & Mander Stove Co. for 12 years and, for the past few years, was their regional sales manager for 11 Western states. His headquarters are in San Francisco.

Additions and promotions announced by E. W. Bullard, president of E. D. Bullard Co., industrial safety organization, include George R. Huffman as advertising manager and E. W. Bullard, Jr., as assistant to vice president in charge of sales, Alpheus Bull.

Both make their headquarters at the firm's main office in San Francisco.

HASN'T LEAKED YET!

**INTERNATIONAL SUPER-GRIP
RE-ATTACHABLE COUPLINGS**

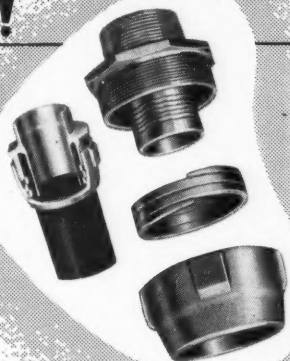
***Designed for use on Commercial Hose,
Propane, Butane and other extremely
High Pressure applications***

● Frankly, we don't know how much pressure SUPER-GRIP will hold. On every test high-pressure hose burst before the coupling showed signs of leakage.

The 3-piece Super-Grip design grasps the hose firmly but gently, effectively sealing hose and coupling over a broad area. Assembling and tightening the coupling automatically contracts flat spiral grip. Simple to assemble, no special tools are needed.

Wherever rubber hose is used in the handling of liquid petroleum products, Super-Grip couplings give safe assurance against leakage and save costs.

Write today for catalog and prices.



**The INTERNATIONAL
METAL HOSE Co.**

A Division of The Gabriel Co.

CLEVELAND 3, OHIO

Butane & Propane

Carter

**Producers of high quality
Liquefied Petroleum Gases Since 1931
Wholesale Only**

**THE CARTER OIL COMPANY
T U L S A , O K L A H O M A**



It is with pride and a sense of great responsibility, that Viking has pioneered a pattern for the rotary pump field.

The pace, set by Viking for more than a third of a century, has stood this test of time. When you are in need of pumps, it will pay you to do as others have done, consider the original "gear within a gear" Viking first. You will find a decided difference. Look to Viking for the answer to your pumping problem.

Send for free bulletin 50SB today. It will be forwarded at once.



VIKING
PUMP COMPANY
Cedar Falls, Iowa

R. H. Lewis, president of the Ruud Manufacturing Co., Pittsburgh, Pa., makers of Ruud automatic gas water heaters, has announced three changes in management personnel along the Eastern seaboard.

C. E. Bartlett has been named assistant to the president.

J. R. Lavelle formerly in Jersey City, N. J., has been transferred to be manager of the Philadelphia direct-factory branch.

Don C. Nicol, of Chicago, has been made manager of the direct-factory branch in Jersey City, serving the Greater New York area.

The election of Francis H. Beam, vice president of The National City Bank of Cleveland, to the board of directors of The Weatherhead Co., Cleveland, Ohio, was announced recently by Albert J. Weatherhead, Jr., president.

Mr. Beam is also director of The Stone Shoe Co., Affiliated Gas Equipment Co., Inc., North Electric Manufacturing Co., The National City Bank of Cleveland and treasurer and trustee of the Cleveland Bureau of Governmental Research.

Marking the aggressive re-entry of Florence ranges into the Western home appliance market, the Florence Stove Co. has named Gough Industries, Inc., Los Angeles, as distributor for 11 counties in southern California and the state of Arizona, according to Richard Nugent, Western division sales manager.

Gas Equipment Co. Distributes "Weco-Trol" Control System

Well Equipment Manufacturing Corp., Houston, Texas, announces the

• **Attention
all Wholesalers!**

**HIGH PURITY
L-P
Gases**

**FREE OF SULFUR,
MOISTURE, RESIDUE —
UNIFORM IN QUALITY!**

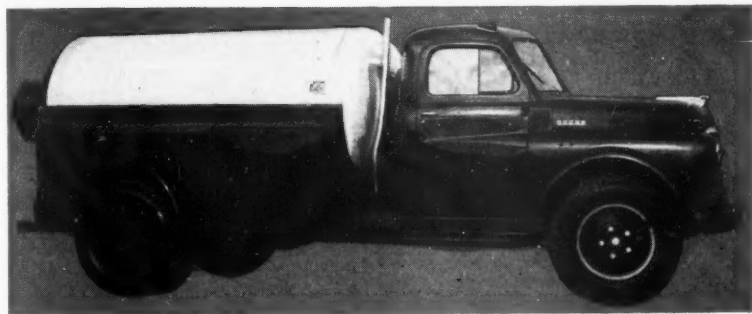


Process pumps and automatic control equipment
at the modern Panama plant, Hooker, Oklahoma.

You, Mr. Wholesaler, can give consumers complete satisfaction by using Panama's high purity propane and butane. Other wholesalers . . . from North Dakota to Georgia to New Mexico . . . now benefit from our quality L-P gases. Our products are processed in two automatically controlled plants from gas from our own wells. Since '38 wholesalers have used our products to their complete satisfaction and the satisfaction of consumers. For pure L-P gases, contact us today!

For information write, wire or telephone today

Phone 7229 **PANOMA CORPORATION** Amarillo, Texas



TRUCK TANKS

TRANSPORTS

Propane Systems—57, 123, 240, 317, 485, 686, 955 gallon

Butane Systems—242, 410, 500, 1,000 gallon

Aboveground and Underground

CHARLOTTE TANK COMPANY

Box 29

Charlotte, N. C.

Phone 3-9416

JUNE — 1950

151

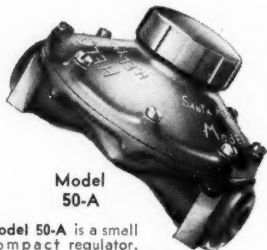
With HELCO You have a Permanent Guarantee

Yes . . . All Helco LP-Gas Regulators are on a PERMANENT EXCHANGE basis. This makes it possible for any dealer to obtain fast factory repair service at minimum cost . . . Under this Service Plan all Helco regulators may be returned to the factory where they will be repaired or exchanged immediately. The total cost for this service is:

Helco 75 or 100-A . . . \$1.00 (plus freight)

Helco 50-A50 (plus freight)

If you wish further information on this established service policy please write.



Model
50-A

Model 50-A is a small compact regulator. Will handle approx. 100,000 B.T.U. per hr.
Model 75 is a light weight compact regulator. Capacity over 100 cu. ft. per hr.

HELCO Products Corp.

2041 Colorado Ave., Santa Monica, Calif.

appointment of Gas Equipment Co., Inc., 2620 So. Ervay St., Dallas, Texas, and Gas Equipment Supply Co., 127 Ellis St., N.E., Atlanta, Ga., as distributors for the "Weco-Trol" control system in the Southwestern and Southeastern states, respectively.

The Weco-Trol control system provides automatic opening and closing of the main discharge valve on LP-Gas trucks. The valve is opened simultaneously with engagement of the power take-off by means of a cable attached to the power take-off handle or lever. When the power take-off is disengaged, the valve automatically closes.

Elimination of manual opening and closing of the main discharge valve has, in many instances, reduced delivery time by more than 20%. Automatic closing assures the valve being closed at all times except when fuel is actually being discharged from the truck. The simultaneous opening with the power take-off prevents the pump being run while dry, also increases meter efficiency and life, according to the manufacturer.

Delta Mfg. Co. Starts Campaign on New Tank

The sizeable fuel saving possible through its patented "Mix-O-Gas" tank system, first determined in company laboratories and later certified by Pittsburgh Testing Laboratory, is the basis of an intensive advertising and promotional campaign in the LP-Gas industry, launched by Delta Tank Manufacturing Co., Inc., and announced by Delta's president, H. S. Phillips.

Delta's big sales effort is taking a new tack—the company started in January with the campaign to back up dealers' promotion at the con-

★ PROOF OF A GOOD SERVICE

★ Satisfied Customers

BUTANE • PROPANE • EQUIPMENT

Tanks, ICC Cylinders, Regulators, Climax Carburetors for conversion of tractors, Century Carburetors.

RAIL SERVICE ANYWHERE . . . TRANSPORT SERVICE IN THE MID-CONTINENT AREA TO BULK PLANTS NOT HAVING RAIL FACILITIES OR STORAGE TOO SMALL TO ACCOMMODATE TANK CARS.

MARKET PRICE TO CONTRACT CUSTOMERS

R. J.

TULSA, OKLAHOMA

Allison

CO.

JUST WHAT THE CUSTOMER ORDERED

A COMPLETE UNIT IN ONE PACKAGE

Peerless GAS UNIT HEATERS

meets the most exacting demands for efficiency . . . quiet operation . . . attractiveness . . . low in height and priced to sell.

Peerless Gas Unit Heaters are shipped from factory ready for power and gas supply. All gas controls and internal wiring completed.

Easy to Sell — Easy to Install

They're Styled for Beauty

Built for Duty

Available in five sizes.

A.G.A. approved for all gases.

Write for NEW literature today!

**QUIET
FORCED
AIR**



PEERLESS MANUFACTURING CORP., LOUISVILLE 10, KY.

FOR BETTER CONTROL OF PRODUCT OR PROCESS...

22 BRANCH OFFICES

Baltimore 5
Buffalo 3
Cleveland 15
Detroit 8
Kansas City 2

New York 17
St. Louis 12
Birmingham 3
Chicago 5
Dallas 1
Glendale 1

Minneapolis 2
Philadelphia 23
San Francisco 7
Tulsa 6
Boston 16

Cincinnati 2
Denver 4
Houston 6
Newark 6
Pittsburgh 22
Seattle 1

...to serve
you faster!

Whoever the problem...it's concerned with CONTROLS...in heating, refrigeration, aircraft or industrial processing...there's a better solution at General Controls. For General Controls actually do more and cost less. So if you have a product or process where control is vital...check with any of the 22 conveniently located General Controls Branch Offices for better results...faster!

GENERAL CONTROLS
801 Allen Avenue, Glendale 1, California
Manufacturers of Automatic Pressure, Temperature,
Level and Flow Controls

New! A DRAFT GAUGE Designed Specifically for Gas Conversion Burner Tests

This gauge indicates, instantly and reliably, pressure or draft of as little as .001 (1/1000) inches W. with a total pointer movement for .01 (1/100) inches W. pressure or draft. Zero at center of scale. Suitable for all draft tests on gas conversion burners, including neutral pressure point test specified in the AGA Installation Standards for Gas Conversion Burners. \$9.00 list—complete with draft tube and leatherette case.



This gauge is one of a complete line of heating test instruments. Write for descriptive Bulletin PD-150.

BACHARACH Industrial Instrument Co.
7000 BENNETT STREET • PITTSBURGH 8, PA.

sumer level. The Baton Rouge, La., company is concentrating on consumer information, and salesmen are being trained under the direction of V. R. Ferguson, general manager, to work closely with dealers in developing planned customer-sales programs.

Mr. Phillips has announced the appointment of Max Fetty, longtime radio favorite in the South and in Indiana, as Delta's new advertising and sales promotion manager. Mr. Fetty brings to Delta considerable experience as radio advertising manager for a large LP-Gas retail firm.

Huge LP-Gas Storage Acquired By D. E. Buchanan Interests

Acquisition of a 2,000,000-gallon liquefied petroleum gas storage and terminal facility—built by the Reconstruction Finance Corp. during the war and idle since—is announced by D. E. Buchanan, president of Hiwan Oil and Gas Co., operator of a natural gasoline plant in the Atlanta Field near Magnolia, Ark.

The terminal includes high, low and atmospheric pressure storage tanks for the liquefied gas, as well as mixing facilities for blending the various types. The terminal is also equipped with facilities for loading and unloading of both trucks and tank cars.

Mr. Buchanan said it is his belief that it will be another two years before consumption of LP-Gas products catches up with production, and that the new storage facilities will save untold quantities of gas at present wasted by burning off by refineries.

The newly organized company, he said, will specialize in the purchase, sale and storage of LP-Gas products both from present Hiwan holdings and from fields in Arkansas, Louisiana and Texas.